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PART I.
ORIGINAL COMMUNICATIONS.

ART. I.—*Pleuritic Effusions, viewed in Relation to Thoracentesis; with an Account of Two Cases in which the Operation was Successfully Performed.* By HENLEY THORP, M.D., F.R.C.S.I., Licentiate of the King and Queen's College of Physicians in Ireland. Letterkenny.^a

THE history of the operation of paracentesis thoracis affords a striking illustration of the slow growth of human knowledge and the difficulty of arriving at fixed principles in the treatment of disease. From the time of Hippocrates down to the present day there is no scarcity of recorded operations; the annals of science from the earliest era describe thoracentesis as a recognised surgical

^a As this communication was written previous to the last issue of the Dublin Quarterly Journal I had no opportunity, until subsequently, of perusing the valuable clinical observations of Professor Banks on Thoracentesis, and the Employment of the Drainage Tube. It is very satisfactory to me to know that his views as to the applicability of the operation to many cases of empyema and hydrothorax, generally supposed to be out of reach of relief by surgical treatment, are quite in unison with my own, or even go beyond them.

procedure; the ancient Greek, Roman, and Arabian physicians practised it; nevertheless it does not appear that the moderns, with all their advantages of a sounder pathology and refined diagnosis, have progressed much in advance of the patriarchal sages of medicine in establishing definite precepts regarding some of the most important points in connexion with the operation. It might, indeed, have been expected that the discoveries of Laennec in that department of medicine with which his name is immemorably associated, and the advances since made by several illustrious followers, would have led, ere now, to something like unanimity of opinion respecting the surgical treatment of pleural effusions—still it is to be regretted that much uncertainty and difference of opinion yet prevails amongst the most distinguished authorities in regard to several practical questions connected with this very important subject.

At what period should we operate in cases of simple pleuritic effusions, and to what extent should the slowness or rapidity of the effusion influence our conduct? What are the indications for the operation in cases of secondary effusions, whether depending upon diathetic or general diseases, or determined by irritation in the lungs or adjoining organs? How, and in what manner, should the nature of the fluid, whether serous, sero-albuminous, purulent, &c., modify the operation? Should the fluid be drawn off gradually, and at successive times, or is it desirable to obtain a complete evacuation of the chest in the first instance? Under what circumstances is it desirable to close the wound after the operation, or leave it patulous? Does the situation of an empyema as to right or left side lead to any special indications? These are questions that might each furnish an appropriate subject for a separate thesis, and which, if submitted to the ordeal of general discussion, would in all probability receive very diversified answers. In truth there is yet wanting an extensive series of accurately recorded cases to constitute reliable data from which just inferences might be drawn as to the success of the operation, whether considered generally or with reference to its performance in particular complications of disease. A statistical table, no matter how voluminous, which amasses all cases indiscriminately, and fails to record minutely the variable conditions under which the operation is performed, whether as respects the constitution or diathesis or the state of local organs, more especially the lungs, fails to simplify the problem, or to eliminate formulæ for our guidance based upon something like definite principles.

The subjoined cases, it will be seen, present a striking contrast to each other almost in every respect:—

CASE I.—*Acute Pleurisy, followed by Pulsating Interlobar (?) Empyema (not of necessity), Thoracentesis, and Recovery.*

William Russell, aged 35, a farm labourer, of temperate habits and sound constitution, but much exposed to wet and hardship, was attacked, about five years ago, with pneumonia on the right side. He was treated with diaphoretics and counter-irritants; was neither bled nor mercurialised; and made a perfect recovery in the space of three weeks. Again, in the August of 1859, after exposure to cold, he was seized with pain in the left side, preceded by shivering, and attended with the ordinary symptoms of pyrexia; there was, moreover, a short harassing cough, with scanty mucous expectoration. He came under my care on the eighth day of his illness; his pulse was then frequent, but soft, and his countenance depressed and anxious; he was restless and nervous, and complained much of thirst and want of sleep; the pain in the side had abated; but the cough was troublesome, and the sputa consisted of a viscid, grayish mucus. His respiration was hurried, irregular, and performed with an occasional sigh; he preferred lying on the left side. The physical signs were those of pleuritis, with bronchial congestion. The lower half of the left side was dull on percussion; respiration distant, feeble, and tubular; there was a soft friction sound in the inframammary region, and an ægophonic vocal twang below the axilla; the heart's sounds were normal; over the remainder of both lungs the respiratory murmur was loud, but attended here and there with snoring rhonchi. The urine was of normal density, and contained no albumen. Ptyalism was established by the exhibition of calomel and Dover's Powder. The side was subsequently blistered. I deemed it advisable to maintain a mild mercurial action for some days, because of the continuance of the cough and respiratory distress, and the physical signs of effusion. It was necessary also to renew the blister. About the nineteenth day of his illness I made the following observations:—Heart pulsates behind the lower part of sternum; marked percussion dulness on left side, from the fifth rib downwards; midway between the sternum and spine, rather below the level of the nipple, and corresponding to an area of about four inches square, a distinct heaving impulse is communicated to the hand placed upon the side; this pulsation is visible, jogs the

ear laid upon the stethoscope, but is unattended with bruit or murmur of any kind. The intercostal intervals are not effaced; there is no œdema of the integuments; the breathing sound is absent corresponding to the extent of dulness, except posteriorly and inferiorly, when a feeble, distant, respiratory murmur is audible on forced inspiration. No convexity of the diaphragm or depression of the spleen can be detected in the hypochondriac region; pulse soft and frequent; cough distressing and paroxysmal; expectoration tough and muco-purulent. To have decoction of bark with iodide of potassium and a sedative cough mixture. A strong solution of iodine to be applied externally.

September 12.—Patient greatly altered for the worse in every respect; cough racking and constant; expectoration of a yellowish-gray colour, copious, and fetid; pulse rapid and weak. The physical signs have increased in distinctness; the cardiac rhythm is perceptible to the right of the sternum, and the area of pulsation in the lateral region is more obvious to the eye, as also to the touch; between the fifth and seventh ribs, and from the nipple back to within a few inches of the spine, the chest can be seen and felt to heave synchronously with the heart's systole; the corresponding intercostal intervals are scarcely so well pronounced as elsewhere, and there is slight local bulging, but neither redness nor œdema.

At my next visit the patient's condition was all but hopeless; there was orthopnea, a rapid vermicular pulse, hurried breathing, moist skin, copious, fetid, purulent sputa, countenance dusky, and strength rapidly failing. Thoracentesis was now the only alternative left me, and I immediately performed it. Drawing the skin a little to one side, I pushed a trocar steadily through the sixth intercostal space, a short distance behind and below the nipple, keeping the instrument close to the upper edge of the rib below. Upon its withdrawal a stream of abominably fetid, viscid, greyish-yellow, purulent matter issued, per saltem, or rather in a periodically accelerated current, through the canula; the quantity discharged in this manner measured about a pint—when I withdrew the tube, and dilated the opening freely with a probe-pointed bistoury, so as to obtain a free and continued vent for the contents of the cavity. The patient, to whom stimulants were freely administered, bore the operation well; and expressed himself, shortly afterwards, as being greatly relieved. A poultice was applied over the opening, and he was directed to lie as much as possible on the left side.

The subsequent history of the case is easily told. It was one of

gradual, but uninterrupted recovery. The patient rallied, his strength increased, the cough became less harrassing, and the exhausting expectoration and sweats declined from day to day; the opening remained fistulous, and continued to discharge for several months; gradually, as the cavity emptied itself, the heart moved from right to left into its normal position. At no time, either previous or subsequent to the operation, was I able to recognise the ordinary phenomena of pneumothorax, namely, succussion, metallic tinkling, or amphoric respiration. It is scarcely necessary to state that the strength of the patient was sustained by the free use of tonics, stimulants, and animal food. He now enjoys excellent health. I examined his side a few days ago; it is very slightly contracted; on percussion it is scarcely so resonant as the opposite; nor is the respiratory murmur so loud; but there is no marked alteration in its physical condition, such as we are accustomed to meet with as a consequence of suppurative pleurisy.

Apart from the successful result of thoracentesis, the foregoing case presents features of very unusual interest. Pulsation has often been observed in cases of "empyema of necessity;" and a valuable paper on the subject was published some years ago in this Journal, by Dr. M'Donnell.^a A throbbing of the lung, in certain cases of pneumonic consolidation, was noticed by Laennec; and a unique case of pulsating pneumonia, attended with *bruit de soufflet*, is given by Graves in his *Clinical Medicine*. Cases, however, of throbbing empyema such as the foregoing, unattended with perforation of the costal pleura, and accumulation of pus under the skin, must be exceedingly rare. Walshe, indeed, has twice seen cases of this description, and refers to them in his recent work on Diseases of the Lungs and Heart.^b What, it may be asked, are the conditions necessary to the production of pulsation in the exceptional cases of pleural effusions in which it occurs? Or, why is it that the stroke of the heart is communicated to some fluid collections and not to others? In most of the cases in which it has been observed, the impulse was strong, diastolic, and heaving, like that of an aneurism; from which it may be inferred that the empyema was so circumstanced as to be subject to the well-known hydrodynamical law of

^a Dublin Journal of Medical Science, March, 1844.

^b Walshe on Diseases of the Lungs and Heart, Second Edition, page 396. See also the history of a case of pulsatory empyema, in the Dublin Hospital Gazette, October 1, 1860. This case is fully reported by Dr. Henry Johnston, of Belfast, who also gives in detail the appearances presented at the necropsy. The patient was also seen by Dr. Stokes and other physicians.

the propagation of pressure through fluid bodies. Now, if we suppose an empyema to be encysted, or closely pent up by adhesive matter, and that the contained fluid, without the interposition of yielding lung substance, comes into direct relation with the mediastinum internally, and the chest-wall on the outside, we have all the conditions furnished for supplying the phenomena of pulsation.

I believe the case just detailed to have been an interlobar encysted empyema, for the following reasons:—1. Although, in the first instance, the effusion occupied the general pleural cavity, as indicated by the physical signs, at a later period respiration was distinctly heard postero-inferiorly, at a time when it was totally absent higher up over the area of pulsation. 2. There was no depression of the diaphragm or spleen. 3. The attack was not followed by contraction of the side, immobility of ribs, curvature of spine, or concentric displacement of organs. 4. The pulsation corresponded to the line of the interlobar fissure. 5. The fluid discharged was viscid, as it were from admixture of mucus. In connexion with this latter fact it is important to remark, that at no time previous to the operation were the phenomena of pneumothorax to be observed. This I am certain of, from careful and often-repeated examinations. There was consequently no direct communication between the cavity of the abscess and the bronchial ramifications; still the fluid resembled a mixture of pus and mucus. We can only account for this fact by a reference to the laws that determine the mutual diffusion of fluids of different densities when separated by moist membranes or porous substances. If the matter lay, where I believe it did, in the fissure between the two pulmonary lobes, it was surrounded on all sides by lung-substance, and necessarily brought into close relation with numerous bronchi, between the contents of which and the interlobar collection an *exosmose* and *endosmose* might with facility occur. The patient, for several days previous to the operation, coughed up large quantities of purulent matter; and had his strength withstood the effort, and the urgency of the symptoms not called for the artificial evacuation of the collection, the latter might have been eliminated without surgical assistance. This spontaneous cure of empyema has often been referred to a so-called “vicarious action” of the bronchial mucous membrane. Does not this case afford a clue to the precise nature of the process; and may we not (preferring the expression of a philosophical fact to the use of a metaphor) more appropriately attribute the result to the operation of the physical law just referred

to? Thus, then, the pyogenic sac was interlobar, and extended transversely across the great pulmonary fissure, coming into close proximity centrally with the heart, and externally with the chest-wall; and its contents forming a continuous fluid column, received and propagated outwards the cardiac pulsation, after the manner of an aneurism.

In the next case thoracentesis was performed under the most unfavourable circumstances. Nevertheless, in the abstract it was signally successful, and prolonged the life of the patient for some months, his death at length occurring from causes having no relation to the operation.

CASE II.—Bronchitis, attended with Symptoms of General Dropsy and Engorgement of the Liver; Copious Effusion into Right Pleura, with Eccentric Displacement of Heart and Diaphragm; Relieved by Thoracentesis.

I was requested, in the July of 1860, to visit, in consultation with Dr. Smith, of Manorcunningham, a coachman of Archdeacon Goold's. He was a person of lymphatic temperament, and middle stature, aged about 40. Up to three weeks previous to my seeing him he had enjoyed tolerably good health; when, after exposure to cold, he was attacked with cough and difficulty of breathing, without stitch in the side or well-marked pyrexial symptoms; the respiratory distress increased, his legs became œdematous; and subsequently the peritoneal sac and right pleura contained liquid effusion; the liver was evidently engorged; and the patient presented an icteroid appearance; he expectorated frothy mucus in small quantities; whistling and cooing rhonchi were audible in both lungs; and the right side, from the angle of the scapula downwards, yielded a dull percussion sound; but there were as yet no distinct signs of eccentric displacement either of the heart or liver; nor was the contour of the intercostal intervals in the slightest degree altered; the urine was scanty, of high density, but contained no albumen. The cardiac rhythm was regular, and unattended with augmented impulse, friction sound, or abnormal murmur of any kind. Mercury had already been pushed to ptyalism. Subsequently the iodide of potassium and diuretics were exhibited without any very beneficial results. Active purgation, by unloading the portal vessels, and diminishing hepatic fulness and abdominal effusion, afforded temporary relief. At length there came a marked aggravation of all the thoracic symptoms—choking cough, fearful breathlessness, and

the most distressing sense of suffocation. There was a corresponding alteration in the physical signs; the dulness extended up to near the spine of the scapula; the heart pulsated to the left of the corresponding nipple; and the diaphragm, convex downwards, depressed the right lobe of the liver into the lumbar region, so that the latter organ lay obliquely across the abdomen, and a well marked sulcus separated its upper edge from the hypochondriac margin; the right side of the chest, measured on a level with the ensiform cartilage, exceeded the left by nearly two inches. There were finally orthopnea, livid lips, dusky countenance, and somnolency; and I performed thoracentesis as a *dernier ressort*.

Drawing the skin to one side, I pushed a small trocar midway between the sternum and spine, through the sixth intercostal space, and having adjusted a stop-cock to the canula, drew off, by means of a strongly-expanding India rubber bag, a large basinful, and upwards, of a straw-coloured serous fluid. By turning the stop-cock at intervals, as the bag filled itself, and carefully readjusting the latter when emptied by compression, the fluid was gradually drawn off without the possibility of the entrance of air into the pleural cavity. The patient, during the operation, became exceedingly agitated and weak, insomuch so that I thought it prudent to withdraw the canula, leaving behind a considerable quantity of liquid effusion. In an hour afterwards the patient had become tranquil, spoke hopefully, and breathed with moderate freedom; and I ascertained that the liver ascended, and that the heart also had moved towards its normal position. Where dulness previously existed there was now a clear percussion sound, and a rustling sort of respiration was audible, with mucous bubbling; and the patient had commenced to expectorate copiously a frothy sero-mucous fluid. The liquid evacuated, upon cooling, divided itself into two portions, a tremulous jelly-like coagulum, and a clear supernatant serum. The operation was not followed by the slightest indication of pleurisy, and in 12 days the patient was able to walk about; his convalescence proceeded gradually, until all signs of hydrothorax had disappeared, so that I began to entertain hopes of his permanent recovery; but the cough and symptoms of bronchial congestion never altogether left him; he continued pale and puffy about the eyelids, and breathless upon slight exertion. Dr. Smith, who had the exclusive care of the patient for three months previous to his death, tells me that there was never any indication of a reaccumulation of fluid in the pleura, but that he became weaker from day to day, with a rapid

irregular pulse, and a return of cedematous extremities. A drowsiness and wandering of the mind preceded coma, the patient dying with all the symptoms of serous apoplexy.

It would serve no useful purpose to detail the various plans proposed at different times for removing the fluid contents of the pleura in empyema and hydrothorax; nor shall I, in the few observations I am about to make, enter upon the subject of diagnosis, or discuss various other topics that are amply treated of in the ordinary medical class books; the objects I have chiefly in view are, first, to sketch briefly the particular morbid states that may call for the performance of thoracentesis, and afterwards to indicate what I conceive to be the just pathological principle which should guide us in our mode of performing the operation.

The most extraordinary fact connected with the history of paracentesis thoracis is the variable amount of success that has hitherto attended it in different hands—the most discordant results have been obtained by men of equal experience, and possessing similar advantages for observation—nevertheless, although individual opinion has differed so widely respecting the merits of the operation, it is now demonstrated that its general result is most encouraging, whether considered as a curative or merely palliative measure. The very important contributions of Bennett,^a Hughes,^a Hamilton Roe,^b and Phillips,^c place the statistics of the operation in a very favourable position, and have contributed in a great measure to remove the erroneous views, respecting its danger, rather generally entertained by the profession. Nevertheless, much diversity of opinion still exists as to when and in what cases thoracentesis ought to be performed.

I think the following enumeration will be found to embrace nearly all the conditions under which the proceeding is likely to be contemplated:—Cases of hyperacute pleurisy, attended with rapid effusion and eccentric pressure, so formidable as to threaten suffocation; cases of pleurisy in which, after the ordinary treatment has failed to remove the effusion, the latter remains either stationary or increases; in empyema proper, or pyothorax, when the strength of the patient is unable to bear up against the suppurative crisis, or asphyxia is imminent; in cases of chronic pleurisy, or latent effu-

^a Guy's Hospital Reports, Vol. ii., New Series. 1844.

^b Medico-Chirurgical Transactions, Vol. xxvii., p. 198. 1844.

^c Medico-Chirurgical Transactions, Vol. xxvii.

sions, occurring, for the most part, in young subjects, after the failure of ordinary measures; unabsorbed effusions incident to Bright's disease, attended with dangerous thoracic distress; pleural collections, persisting as sequelæ of the exanthemata, or continued fever; passive dropsy of the pleura, attended with symptoms of impending suffocation, complicating organic disease of the heart and lungs; certain cases of pyo-pneumothorax produced by the sudden bursting of vomicæ into the pleural sac; some examples of the same condition, the consequence of sloughing of the lung and pleura; traumatic lesions, where the presence of blood, air, pus, or other effusions is productive of hazardous pressure irremediable by other means.

From a glance at the foregoing category it must appear obvious that no approach to a uniformity of symptoms or physical signs can be arrived at as an indication for the operation; the whole series, however, as respects the remedy in question, may be arranged into three groups:—

1. Cases in which thoracentesis, in the absence of symptoms of immediate urgency, may be employed as a curative measure.
2. Cases in which the operation can only be considered as a palliative remedy.
3. Cases in which it may be had recourse to as a *dernier ressort*.

I apprehend that the greater number of the conditions above specified are such as would be considered, by the majority of practitioners, beyond all hope of cure, or even relief, from any operative measure, still I cannot avoid entertaining a belief that the value of thoracentesis, rendered more perfect and safe as the mode of performing it comes to rest upon sounder principles than heretofore, will by-and-bye be generally recognised by the profession; and that the operation will be practised earlier and oftener, and on the whole, perhaps, with fewer misgivings as to the ultimate issue than paracentesis abdominis, which is, with very few exceptions, only had recourse to as a palliative remedy. Indeed it is difficult to understand the reason of the low estimation in which this valuable expedient has been hitherto held, seeing that it is neither painful nor difficult of performance. Surgeons, at various times, hesitated not to take the most unwarrantable liberties with the skull; trepanning for simple fissures, even in the absence of cerebral symptoms;^a making counter-openings for the extraction of foreign bodies; and employing the trephine when patients were in the

^a This, it is almost unnecessary to state, was the practice of Percival Pott.

agony, at the same time that the precincts of the pleural sac were held well nigh inviolate, or rarely approached except by some bold operator, and not without timidity and mistrust; nor will the imperfection of physical diagnosis explain this irrational caution or neglect of the operation so long evinced by practitioners; it is well known that many of the principles of thoracic diagnosis were understood by Hippocrates, and that pleural effusions were accurately recognised by various physicians long previous to the discoveries of Laennec.

No doubt one of the chief causes that heretofore retarded what may be called the *normal* success of the operation was the circumstance of its being seldom practised except as a *dernier ressort*; however, it is now properly employed as a means of cure in various cases of pleuritic effusion, after antiphlogistics, mercurials, iodine, diuretics, &c., have failed to effect the absorption of the fluid, and when further delay could only tend to organize pathological products, and consolidate incurable alterations of structure. Nor are instances wanting to demonstrate the signal benefit to be derived from the operation as a merely palliative remedy. Cases are recorded in the proceedings of the Dublin Pathological Society, by Drs. Corrigan, Law, and McDowell, and also by other physicians elsewhere, which are quite conclusive upon this head. Nor are there wanting numerous examples of the fortunate result of the operation even when had recourse to as an "ultimatum." The two cases that suggested the present communication were of this character; one of the patients made a perfect recovery, and is still living; the other died several months after the operation, his disease having no relation whatsoever to it.

In connexion with the various plans proposed for tapping the chest, it appears to me that a point of paramount importance has failed to receive from surgeons the consideration it deserves, namely, the physical characters of the fluid to be evacuated. Each practitioner recommends a particular mode of operating, without any reference whatever to the quality of the pleural contents. Would, I may ask, collections in other parts of the body of serous, sero-sanguineous, sero-albuminous, and purulent fluids be treated alike, and by the same surgical procedure? Do not surgeons every day practically recognise the difference between chronic, cold, acute, symptomatic, and other abscesses and collections, and act accordingly? How comes it that pleural effusions, of whatever character, should be placed in the anomaly of having only one plan of proceeding applicable to them? Surely here must be an oversight. Until

lately surgeons had an unfounded dread of opening even acute purulent collections in certain localities—for example, in connexion with the larger joints. This prejudice, however, is fast dying away; and if the practice first insisted upon by Mr. Gay were oftener and more promptly executed we should have, perhaps, fewer cases of “resection,” an innovation which has of late years become so very fashionable.

Let us endeavour, then, to apply the common principles of pathology to the treatment of hydrothorax and empyema, and seek to apprehend correctly the ordinary operations of nature in the removal of these diseases. How does the spontaneous cure of pyothorax take place? Here as elsewhere the purulent matter tends to the surface, and is either discharged into the bronchi or penetrates the chest-wall through an intercostal space; atmospheric air has access to the sac of the abscess; gradually the suppurative action lessens as the cavity contracts; and, if the strength of the patient be equal to the effort, a cure is effected. How differently does nature proceed in her task of eliminating serous, sero-albuminous, and non-purulent collections in the same locality. These latter are never discharged *as such* in the manner just described; they are either directly absorbed, or of necessity undergo the *purulent transformation* preparatory to their opening into the lungs, or externally. May not these considerations be suggestive as to the most eligible mode of performing thoracentesis in different instances, and moreover throw some light upon the long-debated question of the influence of atmospheric air when admitted into the pleural cavity.

It is almost superfluous to remark, that some operators suppose this gaseous body to possess a most pernicious influence, whilst others believe it to be perfectly innocuous. That atmospheric air itself exerts no irritating influence on the tissues of the body is rendered pretty evident by the phenomena of general emphysema, as also of simple pneumothorax, whether traumatic or occurring as a consequence of rupture of a dilated air vesicle; although the cellular tissue of the body may be inflated so as to resemble a “stuffed skin,” and the pleura distended almost to bursting, no erethism or reactive inflammation is the consequence of the lesion. But that atmospheric air, on some occasions, does exert a deleterious effect is unquestionable; but it so acts, not by reason of its stimulating properties, but simply because it supplies one of the conditions under which putrefaction of purulent and other fluids is likely to

occur. Not that its presence is invariably followed by the chemical change in question. Laennec gives the case of a patient affected with broncho-pleural fistula, who for six years exhibited the signs of hydro-pneumo-thorax without either local or constitutional distress. Louis, and various other physicians, have witnessed similar instances. In truth the precise conditions under which putrefactive changes are generated in the pleura have yet to be determined; insomuch so that we are forced to admit, in addition to the acknowledged influence of heat and air, the presence of some unknown agent or state which disposes the fluid contents to undergo catalytic changes—or how explain the cause of the latter not taking place in the cases just referred to? Enough, however, is known to warrant the exercise of great caution in performing paracentesis so as to prevent the ingress of atmospheric air in certain pleuritic effusions of the non-suppurative class; whereas purulent collections in the cavity of the chest should form, in my opinion, no exception to the ordinary manner of dealing with similar diseases elsewhere.

In short, I would apply to pyothorax, or pure empyema, the surgical principle, to which there are few exceptions in acute or subacute suppurations; that of discharging the abscess by a free opening. Here, however, it is necessary to inquire where the perforation should be made when the case admits of a point of election? and we may not act unwisely by interrogating the *vis medicatrix* on this head. When spontaneous openings occur, are they not generally found anteriorly and high up? Nature then indicates these positions as being the most eligible by her own operations. Nor is the object of her method obscure or unintelligible. By causing the liquid contents to proceed from below upwards she guards against the sudden evacuation of a cavity (and consequent entrance and *imprisonment* of atmospheric air in proportionate volume) the walls of which can only approximate by slow degrees; thus the suppurating sac is emptied gradually by its own contraction; and the air, which can only enter in small quantity, has *free egress*, being *always uppermost*, and in close proximity with the discharging orifice. We should therefore, in conformity with these principles, not open the chest in a depending position; for if, unfortunately, afterwards, putrefactive changes take place, the septic gases floating above the other contents *have no exit*, are absorbed by the lining membrane of the cavity, excite inflammation of the latter, contaminate the blood, and produce typhoid symptoms. To prevent, then, putrid absorption, and its concomitant evils, let the empyema

be opened above—that is to say (when the case admits of our doing so), between the fourth and fifth ribs, anteriorly, and provide, if necessary, for the constant drainage of the abscess by the introduction of a Chassaignac's tube.^a

In cases, however, of hydrothorax, or sero-albuminous, sero-sanguineous, and passive collections in the pleural sac our operative proceedings should be guided by very different principles. In pyothorax a pyogenic membrane is already formed, and matter is making its way to the surface; by evacuating the collection we only complete an operation already commenced. But the other class of effusions referred to are very differently circumstanced; they are not included in an adventitious sac, or newly organised membrane, but lie in contact with the serous surface in a healthy condition, or only slightly altered in anatomical structure and vital endowments; the fluid evinces no tendency to reach the surface; if it disappear it is directly absorbed from the serous cavity, and is never evacuated externally without having previously undergone more or less of purulent metamorphosis. Therefore we should endeavour, in dealing with these immature collections, to avoid all causes of irritation, and to prevent, by all means in our power, the higher or suppurative grade of action not yet attained under existing conditions; in short, we should make the practice of art approach as closely as possible to nature's own operations, and not proceed in untimely advance of them. Accordingly the fluid ought, only in the first instance, to be partially withdrawn; the remainder may be absorbed into the system; if not, the tapping may be repeated. Valvular perforation of the integuments and the employment of a vulcanised India rubber bag and stopcock, or the ingenious trocar and canula invented by Mr. Charles R. Thompson, will effectually prevent the entrance of atmospheric air.^b

By proceeding in this manner we do not overstrain the vital

^a It may be necessary, in certain cases, to make a counter opening inferiorly, and draw the tube completely across the cavity. This plan of "drainage" has been adopted in two instances, by Dr. Goodfellow, with signal success. He reports them in the 42nd Volume of the *Medico-Chirurgical Transactions*. The practice, also of iodine injections after the cavity has been reduced to the condition of a fistula is well worthy of trial.

^b As suppurative action is not anticipated in the mode of operating referred to in the text, the point of election need not, as in pyothorax, deviate from that generally selected—namely, between the fifth and sixth or sixth and seventh ribs, and midway between the sternum and spine. When any doubt exists as to the nature of the fluid, the introduction of Dr. Babington's explorator will be found preferable to the grooved needle in ordinary use.

processes of the economy in their progress towards the restoration of health, but only disencumber them of impediments that check their free action, and, with full confidence in her resources, leave Nature to complete the cure by the continuance of her own efforts.

We first endeavour to comprehend the purposes and *modus operandi* of the *vis medicatrix*, and then follow faithfully in her path, without seeking, by premature interference, to reverse the natural order of pathological events, or force upon her contingencies for which she is as yet unprepared. In conducting the two cases which form the groundwork of this communication to a favourable termination I was guided by the principles just enunciated.

ART. II.—*Notes of an Unusual Abnormal Condition of the Mucous Membrane of the Tongue and Cheeks, considered in connexion with Life Assurance.* By J. MOORE NELIGAN, M.D.

ANY departure from the normal condition of the healthy body is of especial interest to the profession in its bearing on the question of life assurance; and it is chiefly with this view I am induced to put on record the following case. There are few public duties which the medical man has to perform of more importance to his professional character than that of the examination and selection of lives for assurance; his duty is here two-fold, involving sufficient care and discrimination to protect the company for which he is acting, and avoiding an unnecessary over scrupulousness in order that the interests of the individual proposing to be assured should not be damaged. Little has been written to guide the junior practitioner when called on to act in this capacity, although there is scarcely any in which he so much needs, and might derive so much benefit from, the advice of those of his seniors to whose lot it may have fallen to have had more than ordinary experience in the examination of lives. One especial difficulty is thrown in the way of medical men by the nature of the forms which they are called upon to fill up, and which are also intended to be guides to them as to the manner in which they are to conduct their examination. No uniform plan or form is adopted by assurance companies, and scarcely any two of them agree; in some undue prominence is given to mere trifles that can have but little effect on the duration of human life, while in others the most important points are left

unnoticed. I have before me now the form supplied to their medical officers by a recently established company, which contains no less than 36 questions to be put by them to the proposer, the mere recording the answers given to which, would, if conscientiously performed, occupy at least an hour, and, when recorded, the only value of many of them would be to puzzle the board of directors and their chief medical officer, before whom they would be laid for a final decision on the case. Take for example the following:—"Query 16. Can he run or take violent exercise without more than ordinary inconvenience? Query 19. How many miles does he walk each day, upon an average; and what other exercise does he take? Query 20. What is his usual beverage; beer, wine, spirits; and their general amounts? Query 21. Does he sleep well at night? Query 33. Is he active or sluggish; excitable or apathetic; nervous, cheerful, or of a fretting disposition?"!! On the other hand, in another form I have before me, there is no query as to the ages of the parents, or whether they are living or dead; one of the most important points, perhaps, in coming to a conclusion as to the chances of longevity. As the drawing up of these forms is usually left to the principal medical adviser of each company, it would be surely easy for the profession to agree upon, if not an uniform, at least, an approximate set of questions.

I should, perhaps, apologize for this digression, as it is not my intention at present to enter upon the general question of life assurance in its medical bearings; I merely wish to put on record a single case, in which, in a perfectly healthy body there existed a peculiar condition of the tongue, a description of any similar to, or resembling which, I have not been able to find on record.

H. E., aged 46 next birth-day, appeared before me to be examined for assurance on the 17th of April, 1857. In his paper he stated that he never had any illness since childhood, and that he never had occasion even to consult a medical man. His father died at the age of 78, and his mother was living, aged 77. He had, originally, two brothers and three sisters; his two brothers were dead, one at the age of three weeks, and the other at the age of 21 years of fever; one of his sisters died at the age of 48, of acute bronchitis; the other two were living, and in good health. As the result of my examination I reported, that on stethoscopic examination the heart and lungs were healthy, as were also the viscera in the other cavities, as far as could be ascertained; that he had the appearance of a person of the age stated, and of one whose habits

and mode of living had been uniformly temperate; that he was a stout, well-made man, about the middle height, of a sanguine temperament; and that there was nothing in his appearance or conformation that would lead one to suppose he had a tendency to any particular complaint. And, in giving my opinion on the life, I stated, that as regards his present health it was good; as to the state of the different organs, they were healthy, but the tongue was singularly affected, the natural membrane covering it and the inside of the cheeks being changed into a thick white skin, like a kid glove, and uneven on the surface; as to his constitution, that it appeared to be sound; and, as to the eligibility of the life for assurance, that it would be a first class life were it not for the state of the tongue, which I had never seen anything like before, nor could the proposer assign any cause for it; he said that it had been so for the last 30 years, that his taste was as perfect as that of any other person, nor had he any soreness or uncomfortable feel in it. I concluded my opinion by adding that in the case of so singular an affection I would advise an extra rate of five or seven years to be charged.

The condition of the mucous membrane of the tongue and inside of the cheeks here alluded to was very remarkable. The tongue was perfectly clean, that is to say, there was no fur on it, nothing that could be removed by scraping or washing; it was of a dead white colour, resembling, perhaps, rather the appearance of the surface of the tongue in a boiled calf's head than a kid-skin glove, the lustre of which it wanted; it was uneven on the surface, but not wrinkled or fissured, nor presenting the papillated character of the organ in its normal state, there was more a general unevenness. The same condition existed in the mucous membrane lining the cheeks, and the gums in contact with them, but the covering was evidently less thick; the roof of the mouth, the palate, the throat, the tonsils, and the uvula were quite natural in appearance. There was no unnatural dryness or change of temperature of the mouth; the salivary secretion was abundant, the gustatory powers perfect, described by the gentleman himself as being unusually sensitive, and the speech was in no way affected. On closely questioning him, he stated that he noticed this change when he was about 18 or 19 years of age, and that it then was just as complete as when I examined him. He thought when he first discovered it that it must have been caused by a habit he had of indulging in smoking to excess, and of always smoking the tobacco in the shortest

possible pipe, so as to get the smoke into his mouth as hot as he was able to bear it.

This abnormal condition was quite new to me, although I had examined many hundred of lives for assurance, nor after much research could I find any similar case recorded; however, not seeing anything of sufficient importance in it as being likely to shorten life, I gave the opinion above quoted; but the head office in London considering the case as one either for rejection, or for acceptance at the ordinary rates, on the advice of their chief medical advisers, who considered the favourable features to preponderate much over anything which could be regarded as unfavourable, decided on accepting it without any extra rate of premium. Much delay occurred in completing the transaction, in consequence of its being connected with a loan on landed property, and it being found necessary to assure the life for a much larger sum, this gentleman again appeared before me on the 25th of January, 1858, when I gave the following report:—"I hereby certify, that I, this day, examined H. E., and that his life is now as eligible for assurance as at the date of my former report upon it. I am still of opinion, that in consequence of the peculiarly unnatural state of the skin of the tongue and mouth, an extra rate of premium should be charged." Some correspondence then ensued between the head office and myself, in which I explained more fully my reasons for recommending the increased rate, the chief one being, that if any accident occurred to the tongue, in its abnormal state, cancer might result: finally the life was accepted at an extra rate of five years, the former policy being surrendered.

I again examined this gentleman on the 29th of April in the same year, the matter not having been sooner completed, when I found no change to report; and on the 11th of May another assurance company accepted his life for a large sum, on my former reports, at the same extra rate.

The next time I saw him was on the 3rd of June, 1861, when he appeared before me for examination for a further assurance, and then I could not discover the slightest alteration in the tongue after the most careful examination; I therefore reported as before, and the life was again accepted at the same extra rate. On the 30th of September another assurance was effected on his life by a different company on the former papers. About the end of the following month this gentleman was directed by the Dublin secretary of the first company which had assured his life, to wait on me with the

view of being examined for an assurance proposed by a third party, when he stated that he could not do so for a few days as he had accidentally bitten his tongue, and it was sore. I did not see him after this date, so that the remainder of his history I have learned from others.

It seems that, as the result of this bite, a small tubercle, about the size of a pea, formed on the edge of the tongue, beneath the mucous membrane, its situation being on a level with the molar teeth. For this he sought the advice of some of our eminent surgeons, who differed in opinion as to the necessity of an operation; the result being that he placed himself under the care of one of them who treated the disease with caustic applications. After some time, however, hemorrhage set in, necessitating an operation, which he survived only a few months, cancer having invaded the glands in the neck.

As I have already said, my object in recording this case is to call attention to the existence of, I believe, a hitherto undiscovered abnormal condition of the mucous membrane of the tongue and cheeks; to show the probability of its terminating in cancer; and, as a necessary conclusion, to point out that such a deviation from the natural state of these parts would render a life ineligible for assurance.

ART. III.—*On Certain Movements of the Throat and Chest in Respiratory Acts.* By EDWARD SMITH, M.D., LL.B., F.R.S., Assistant Physician to the Hospital for Consumption, Brompton, &c.

PROFESSIONAL attention has been recently called to the movements of the larynx by the demonstrations of Dr. Czermack, in the use of his effective modification of Avery's speculum; and an interest is now being felt in the subject beyond that which it has hitherto commanded. It is with a view of further extending this inquiry that I venture to publish the details of an investigation into the movements of the parts of the throat above the larynx which are consentaneous with chest movements in the performance of respiratory acts, which were prosecuted some time ago, and then laid aside from the pressure of other engagements, and from a desire—since proved to be futile—to obtain photographs of the parts *in situ*.

I cannot think that the subject has been as yet studied with the minuteness which it deserves, whether we regard its importance in relation to the mechanism of respiration in health, or the influence of affections of the throat, locally or in their reaction upon respiration, which occurs in disease; neither do I think that we can now make that full practical application of the observed facts which will be possible in a few years to come.

I purpose, in the following communication, to describe the motions of the throat, observed in myself and others, in two sets of respiratory acts—those which do not and those which do involve the closure of the larynx, and to add some observations upon a voluntary respiratory act, showing that the configuration of the chest may be so changed that nearly the full quantity of air may be admitted and emitted, with variation in the perpendicular diameter only.

1.—THE THROAT.

Movements which do not involve Closure of the Larynx.

ORDINARY AND FORCED RESPIRATION.

In *ordinary breathing* through the mouth, if we commence from a state of rest of the parts about the throat, the tongue sinks, and especially at its root, and the *velum palati* rises. A continuance of the act scarcely excites further movement in the velum, or varies the figure of the fauces; but the tendency thereto is a little greater with expiration than with inspiration. A state of true repose is not permitted so long as the act is continued through the mouth, notwithstanding the intervals between the inspirations; but the velum and tongue have the same posture in the interval as during the act. When the state of repose occurs, the tongue rises and the velum falls; and hence the contrary acts must occur when inspiration is again effected through the mouth; but the state of repose is neither common nor necessary during expiration, and must be carefully distinguished from that of expiration.

In *ordinary breathing* through the nose, from the closest inquiry which I could make, I believe the parts to be then in a state of rest, so far as that the velum is depressed, and the root of the tongue raised.

In *forced respiration* through the mouth the effects are much more pronounced. In both expiration and inspiration the posterior isthmus is elongated from above downward, by the ascent of the velum, and greatly contracted laterally, and particularly at the key

of the arch, by the drawing inwards of the roots of the posterior arches; and it is in the latter position that the greatest muscular effort seems to occur. In the raising of the velum the chief action appears to be at the root of the uvula; and that point, indeed, is manifestly the centre of all the movements connected with the fauces. It is very peculiar in direction during expiration. During inspiration the uvula is carried backwards and upwards, even so far as to be horizontal, and it is greatly tightened; whilst during expiration it is directed forwards, and is loose; but the velum is still tightened at the point of connexion with the uvula. It is, however, needful to observe that the tightening of the velum ceases at or near to the end of expiration, whilst at the same moment the fauces expand, and the velum falls downwards and forwards, and so far resembles a state of repose; but the latter state does not, in fact, occur during the act of expiration. A momentary rest occurs ordinarily after the inspiration, and before the expiration begins—and again after the expiration, before the inspiration is renewed; so that there is a frequent alternation of constriction and dilatation; but the state of repose is not due to either the expiration or the inspiration.

Hence it is proved, that not only is there violent muscular action in the throat during the forced efforts of respiration, but that there is a consent between them and the other inspiratory movements of the thorax; and particularly that during their continuance there is no opposing action on the part of the diaphragm and abdominal muscles.

I then inquired as to the channels by which we breathe in ordinary respiration, and found it a much more difficult inquiry than experience would have led me to expect. In this investigation I made use of the spirometer and mirror.

We do not ordinarily breathe by both the mouth and nose at the same time; but when the mouth is open the air enters chiefly, if not entirely, by that aperture. If a tube be held in the mouth it is just possible to breathe through it as well as through the nose at the same time, and without producing any nasal sound; but it would then be most unusual to breathe through the nose by persons of ordinary manners. It is, however, possible to hold a tube in the mouth, and yet breathe as entirely by the nostrils, as it is to breathe entirely through the tube; and the latter may be continued after having been once effected without any fear of air entering by the nose so long as the attention is given to it. In blowing through

the mouth with moderate force it would be impossible to expire also by the nose; and it is but barely possible to inspire forcibly through both nose and mouth at once.

It is quite possible to breathe either by the nose or mouth separately at will, or with the two alternately as well as with both at the same time. The alternate action is requisite in using certain spirometers and inhalers, and demands a little practice. In inspiration by the mouth and expiration by the nose, the tongue is first lowered, and the velum raised; and then those conditions are reversed; and in this latter action the anterior arch is closed by the back of the tongue. The communication from the pharynx to the mouth can be shut off whether the mouth be open or closed; but if it be open, an effort is required to raise the back of the tongue, and thus to meet the velum.

As it respects the closing of the nostrils from the pharynx, I remark that there is power to do so, as is proved by the following facts:—When the mouth is open we can expire even forcibly, and yet no air pass by the nose. When the mouth is shut we can distend the cheeks with air, and yet no air pass out by the nose. To open the nose it is then needful to make an effort, or to arrest the previous effort, and this is followed by a crack and a rush of air through the nose. There is also some change in the position of the velum when the posterior nares are thus opened to the pharynx.

The mode by which this is effected cannot be seen during the act; but I believe it to be by the movement of the velum, as in forced respiration by the mouth. Hence, anything preventing the action of the velum, or any want of integrity of it, or deficient elevation of the back of the tongue would render the isolation of either of the two orifices impossible. I have endeavoured to draw the tongue downwards, and backwards, and in various other ways, to ascertain if the falling backwards of the tongue in anesthesia could close up the fauces, and thus prevent respiration; but without being able to prove or disprove it, I believe it cannot entirely do so.

SINGING.

In singing the posture of the throat and tongue is much the same as in all forced respiratory efforts, but it differs with the pitch and and register of the voice. In singing there are three registers of the voice, viz.:—1st, the chest tones; 2nd, the medium tones; and 3rd, the head tones.

In singing in the chest register—viz., up to *la* or *si*—the position of the throat is as in ordinary talking, the fauces being contracted, the velum raised and arched, the uvula pendant and thick, and the tongue depressed with recession of the posterior arch and thickening of its root. No posturing of the throat is necessary; and neither the pitch nor the quality is influenced by any motion of the uvula. In the medium register—as from *si* to *fa*—the same posture is found, except that the uvula now begins to be drawn up at its root, and the velum also rises with it.

It is in the head tones that posturing of the throat occurs; and in them it is considerable and forcible. All the parts in the fauces become tightened to the last degree; and so narrow are the fauces at the uvula that that little body seems to fill up the chink. The uvula exhibits remarkable changes in form and posture. At the very highest tones—viz., *sol*, octave above the line—it is so contracted as to be reduced to a narrow point. It is also drawn backwards and upwards from points in its length, descending from its root towards its free end, progressively, as the pitch rises, so that at the very highest notes it is perfectly horizontal. It is remarkable, that with all this tension the other parts of the fauces may be quite motionless, unless an inspiration should be made, and then they posture as in forcible inspiration.

In all the registers alike, the employment of a mirror shows that the breath passes out through the mouth alone, when the tone is clear and pure; but it passes partly by the nose when a nasal sound occurs. The sound, however, is not so limited; but in the chest tones is chiefly through the nose, in the head tones through the mouth, and in the medium through both. In the head tones the sound is cut off from the nose by the ascent of the velum, and the closure of the nares by a very low vibrating membrane. It is also worthy of remark, that closure of the nares anteriorly does not necessarily affect the quality of the tone in any register; and this expedient is a good test to the singer himself of the degree of purity of the tone. But in reference to the chest tones which pass through the nose naturally, it is difficult to avoid injury to them if the nose be closed anteriorly; and it is needful to raise the velum. The pitch of the note is produced in the larynx.

TALKING.

The posture of the throat in talking is that of ordinary respiration. In the open posture—as in saying “Ah!”—the velum is carried

further upwards and backwards, and then falls in the opposite direction when the talking has ceased; but it never falls so low as to lie upon the back of the tongue. Speaking in the three registers requires the same posturing of the throat as in singing in those registers. The nose vibrates, during talking in the chest and medium registers, but not with the head tones; and this is the same in singing in those registers. The sound may pass through the nose, and yet the current of the breath pass by the mouth, showing that it is due to vibrations of air in the nares, and not necessarily to the current of air passing through the larynx; but the vibrations are set in motion by that current.

The quantity of air emitted during talking or singing is small at each moment; for, although it is continuous it is but little, if any, greater per minute than occurs with the intermittent efforts of ordinary respiration. When singing in the *bravura* style there is an increased expiration of only 40 cubic inches per minute.

YAWNING.

In yawning, the posture of the throat is the same as in the most forced respiration, with two exceptions, viz., that in the expiration the velum is raised higher than in inspiration, even above the level of the bony palate, and the tongue exhibits a remarkable ridge at its middle part. The order of the actions is as follows:—

1. There is a very deep, the utmost complemental, inspiration, preceded by a peculiar sensation at the precordium, and inducing, or attended by, the wide opening of the jaws. 2. The breath is held—not by closure of the larynx, I believe—but by the muscular efforts of the diaphragm or abdominal muscles; and the jaws are widened to their utmost degree. 3. Then follows a long expiration, during which the mouth naturally remains open; but by great effort it may be closed, and then the air enters the Eustachian tube, and the gaping is less complete. During the inspiration and the holding of the breath the larynx descends greatly with the lower jaw.

SNORING.

This act may occur with the air passing through the nose alone, through the mouth alone, or through both at the same time. When through the nose alone it is very difficult, and then there is some noise produced by movement of the nasal cartilages which cannot be often repeated, and by a dull rolling noise about the velum and posterior nares. This can scarcely be ordinary snoring. The act

is the most easy and natural when the mouth is open, and the breath passes through the mouth alone. There is then a rattling of the velum against the back of the tongue, except when the tongue is held down at its root by voluntary effort. When the air passes through both orifices the snoring is not so easy; but it, doubtless, does so ordinarily, and perhaps with the deepest snore. The mouth is less open than in the former condition; but I believe the rattle to be still due to the tongue and velum. If the mouth be kept widely open the rattle does not occur; or if it do occur it is very indistinct and uncertain, because the back of the tongue is held at too great a distance from the velum.

Those acts which involve a Closure of the Larynx.

It is possible and easy so to fix the throat that no air can pass outwardly either through the nose or mouth, and yet the communication by the mouth shall be free by the ascent of the velum and uvula, as it is in singing or talking in the chest register. This is not dependent upon any position of the jaws or cheeks, for the former may be moved at will, and the latter be distended and collapsed repeatedly, and yet no air shall have left the lungs. This is also observed in the act of coughing, and in various efforts, as the carrying of weights, in defecation, and other expulsatory acts. When the obstacle is overcome, there is a crack and a rush of air. During its continuance the precordium is tense, and the diaphragm fixed, and the larynx is also drawn up considerably, but yet to a less extent than occurs with swallowing.

The point of interest is to determine where the obstruction is placed. It must be, judging from the sensation, either in the larynx or about the diaphragm; and, on carefully inquiring into it, I believe that it is not from any arrest of expiratory action in the abdominal and other expiratory muscles, but in the larynx, for the following reasons:—

1. The expiratory muscles appear to be acting forcibly, both from the sensation internally, and from that communicated to the hand externally, and from the change in the figure of the abdomen.

2. When the obstruction is overcome, there is a sensation in the larynx besides that of the sudden passage of a volume of air. This is also confirmed by distending the cheeks, first with the communication open, and then without it. When the air passes through the lips there is a difference in the sensation in the throat in the two experiments; and in only one does it indicate that an obstacle has been overcome.

But, admitting that it is in the larynx, does it follow that it is necessarily at the glottis? The sensation, when the obstacle is overcome, seems to be higher up and nearer to the epiglottis; and in addition, there is the ascent of the larynx; both of which circumstances point to the superior aperture of the larynx as the seat of obstruction, and indicate that it may be due to the elevation of the larynx underneath the epiglottis. Proof of this is difficult to a self-experimenter; but it could be obtained by means of a tube of half an inch in diameter being passed down to, and, if possible, into the larynx, and noticing at what point the obstacle is removed. It is however easy enough, when the throat of another person is examined.

Let a person be selected in whom, by practice or absence of hyperesthesia, it is possible to expose the free edge of the epiglottis with ease; and place him before a window, in good sunlight, at a height convenient to the stature of the observer. Let the mouth, and particularly the lips, be completely expanded, so as to render the opening of the mouth of an egg-shaped form, but with the short axis somewhat longer; and direct the patient to inspire by the mouth, so as to lift up the velum, and to continue to respire at his ease during the inquiry. Place the broad spatula carefully upon the tongue, as far back as it can be borne, and by the aid of the long handle, steadily and firmly depress it, and at the same time draw the root of the tongue somewhat forward. Having previously instructed him to hold his breath, and make a strong expulsatory effort at the same time, direct him to do so now that the epiglottis and the surrounding parts are exposed to view; and if he have understood what is required, and have done it, the following changes will be observed during the act:—



Drawing, showing the position of the parts of the Fauces and Pharynx in the first part of coughing and other expulsatory acts.

1. The larynx is carried upwards to the extent of perhaps half an inch. 2. The free edge of the epiglottis becomes somewhat curved, and is carried backwards towards the posterior wall of the pharynx. 3. The whole circumference of the pharynx becomes contracted and corrugated, so as to reduce the circular aperture below; but the lateral walls particularly project, and diminish the area in that direction, and the posterior wall of the pharynx is brought forward. 4. With these acts the posterior aspect of the epiglottis is brought into approximation to the posterior wall of the pharynx, and the lateral edges are near to the lateral bulging of the pharyngeal muscles. When the expulsatory act ceases, all the parts return to their former state, and the cavity instantaneously enlarges; and the contraction and enlargement may be repeated alternately, at pleasure, for several times, in a suitable subject.

Hence, in this act it will be readily seen that the apertures of both the larynx and œsophagus are temporarily closed; and it may be affirmed that such is the condition in all expulsatory acts at the period preceding the emission of air.

Such, moreover, is supported by two well known facts. In cases of destruction of the free edge of the epiglottis such acts as coughing can be only imperfectly performed, for the compression of the chest space is never perfect; and the crack which accompanies the emission of air in ordinary coughing does not occur, or it is exceedingly feeble. Hence, in such cases, the free edge of the epiglottis could not be fully applied to the pharynx, and the full benefit of the expulsatory act of coughing, and perhaps of other expulsatory acts, is not obtained. Again, when, after the application of the strong solution of nitrate of silver to the lower part of the pharynx, there is apnea, the strangulation passes away very frequently with the eructation of wind from the œsophagus at the same instant, which implies that both the larynx and the œsophagus were closed together and reopened together.

Hence I cannot doubt for a moment that *a* seat of the occlusion, in expulsatory acts, is at the bottom of the pharynx, and that the muscles of the pharynx act the part of constrictors, and the free edge of the epiglottis that of a valve; but it does not follow that there is not a consentaneous act of a similar import proceeding in the larynx. Dr. Czermack has informed me that, in the act in question, the vocal chords are drawn together, the arytenoid cartilages approximate closely, and the epiglottis is carried backwards, and closely applied to the anterior aspect of the cartilages, and thus closes the

chink which otherwise exists between them. But it is evident that in the extreme effort the interior action of the larynx can be no longer observed, since the apposition of the epiglottis to the posterior wall of the pharynx cuts off the admission of light.

COUGHING.

The position of the throat and tongue in coughing is the same as in forced respiration; but the posterior arch is thinner than occurs with singing. The peculiarity of the act is that it alternately discharges and renews this position. The following is the sequence of the phenomena attending the act:—

1. The posture, in the throat, of forced respiration is induced.

2. There is closure of the larynx, most probably at its upper termination, with ascent of that organ, fixing of the diaphragm, and the exertion of great expiratory force; and, as the exit of air is prevented, the air contained in the lungs must be compressed and dislocated. The fauces also, during this part of the act, become more compressed laterally.

3. Cessation of the obstruction, followed instantly by violent spasmodic expulsion of air through the mouth only, relaxation at the precordia, and sudden descent of the larynx.

It is not needful that there should be an inspiration before every cough; and when there is not, the air which is discharged must be the reserve air; and hence the volume of the lungs and the distension of the air-cells will be less than in a state of rest, as occurs in such spasmodic acts as those of hooping-cough.

2.—CONDITIONS ATTENDING A CERTAIN VOLUNTARY CHEST MOVEMENT.

I find that with the larynx closed, and without any air entering the lungs, I can, by the violent action of the thoracic muscles, expand the thorax antero-posteriorly and laterally to the utmost degree, or nearly so; to which it can be expanded in those directions with the admission of air; and that when it is so expanded I can admit the same quantity of tidal and complemental air, or nearly so, which could have been admitted in the fullest inspiration without this postural effort. I cannot determine the perpendicular measurement, but I presume that it is lessened. The whole thorax is elevated 1 inch, and there is a decrease of $\frac{3}{4}$ of an inch in the distance from the navel to the upper extremity of the sternum. The figure of the chest with the postural effort, without air, is the same

as with ordinary deep inspirations, but there is a greater tucking inwards at the precordium. During the effort the whole body appears to be on the strain, and particularly the muscles of the neck posteriorly and laterally, of the jaw, and of the ribs; and those of the loins are stiff and sore after the exertion. The arms feel as if they were fixed; but it is not so necessarily, for they may be moved about at will. When the posture has been effected, and it is desired to admit the air, there is a peculiar and loud clack in the throat; but this does not take place on the instant, with the will, and seems to imply that the voluntary closure of the throat in preventing inspiration, cannot, on the instant, be removed. The tongue has no essential part in the fixing of the throat referred to, to prevent inspiration, for it may be at rest or extended, and yet it never affects the closing or the opening of the larynx.

The following are the admeasurements before and after the admission of air, the quantity inspired at each ordinary inspiration being 35 cubic inches, and the movement across the seventh rib being an increase of $\frac{1}{8}$ inch.

1. *With the postural effort commencing at the normal point of expiration:—*

Across the seventh rib there is an increase in the circumference to the utmost degree of expansion, without air, of 12-10ths of an inch, and a further increase of 2-10ths of an inch on the admission of air to the utmost degree. Across the nipple the increase without air is 7-10ths of an inch, with a further increase with air of 6-10ths of an inch, and across the second intercostal space the first-mentioned increase is 9-10ths of an inch, and no more with air admitted.

In reference to the abdomen there is, just below the ribs, a decrease of 6-10ths of an inch, without air, and then an increase of $2\frac{9}{10}$ inches with air admitted. Across the navel the decrease without air is 1 inch, and then the increase with air is 2 inches.

2. *With the postural effort commencing from the point of deepest expiration:—*

Across the seventh rib the increase without air is $2\frac{5}{10}$ inches, and another 1 inch with the admission of air. Across the nipple the former is 7-10ths of an inch, and the latter 4-10ths of an inch, whilst across the second space the former is 9-10ths of an inch, and the latter 1-10th of an inch.

In the abdomen, just below the ribs, there is a decrease of 3-10ths of an inch without air, and then an increase of $3\frac{3}{10}$ inches with

admitted air, and across the navel a decrease of 8-10ths of an inch without air, and an increase of 2 inches with air.

The quantity of air admitted without increasing the size of the thorax beyond that of the fixed posture under discussion is 180 cub. inches, and that to the utmost capacity of the chest is 210 cub. in., the starting point being that of ordinary expiration. When, however, the effort is made from the point of most complete expiration, the quantity of air admitted is 230 cub. inches, without increasing the size, and 260 cub. inches when expanded to the utmost degree.

The admeasurement and quantities vary somewhat with the fatigue, for it is impossible to maintain for a long time, or to repeat often, the exertion without fatigue. It is also imperative to have the movements most perfectly under the control of the will.

Thus in the postural efforts a very great increase in the admeasurement of the chest is effected, without the admission of air, and a slight further increase on the admission of air; whilst the circumference of the abdomen is lessened without the admission of air, and greatly increased afterwards on its admission. But as much as 80 cub. inches of air may be admitted into the lungs before the circumference of any part of the abdomen enlarges. When the starting point is that of complete expiration the chest admeasurements are increased, whilst those of the abdomen are decreased, before air is admitted, and a proportionate increase in the size of the abdomen results after air has been admitted. The direction of the enlargement of the chest by the inspired air is downwards.

It is thus evident that complete inspiration may be effected by expansion of the lungs in one direction only, but with regard to expiration that is either impossible or very difficult under the same circumstances. Whilst inspiration may be thus as quickly and as surely effected as under ordinary conditions, the expirations must be made very slowly, and unless a much longer period is allowed for its performance than under ordinary circumstances, the whole of the complemental and tidal, and part of the reserve air, is not emitted, and, as a consequence, less air is admitted during the following inspiration. Hence I think it is proved that inspiration may be completely effected by the diaphragm alone, and that the attendant expansion of the thorax is not essential, provided it be expanded at the period of inspiration, but that expiration cannot be effectually performed by the abdominal muscles alone, so long as the thorax remains expanded; and hence that the respiration would be seriously

impeded, if from any cause the thorax remained expanded beyond the normal degree.

I do not know if the capacity of the chest is varied in either direction by this postural effort, since it is impossible to determine on myself the perpendicular depth of the chest. There is no doubt, I believe, that the capacity of the chest may be enlarged to a certain extent, without the admission of air, by the expansion of the contained air; and the conditions under which the air is placed during this effort, are very favourable to its expansion.

There must be a dislocation of the air within the lungs, so as to permit of the change of figure of the lungs; and hence the air-cells in parts of the lungs must be at the same moment in two opposite conditions, viz., those at the base containing as little air as possible, whilst those centrally, laterally, and superiorly situate must be distended either to their utmost extent, or to utmost capacity of the chest at those points. Hence it is proved that an empty condition, or nearly so, of the air cells, is not necessarily due to the pressure of the thoracic walls, as a whole, and that, in fact, partial collapse on a large scale may occur; and, in like manner, that distension of a great part of the air cells may occur without the entrance of air from without, and simply by dislocation of that within the lungs.

It is also clear that whilst the air cells of the greater part of the thorax are so distended that they cannot permit the entrance of any further quantity of air, those at the base are capable of receiving 260 cub. inches—or, in fact, the whole quantity which the lungs can inspire from the point of most complete expiration; and hence that the abolition of a large part of the air cells at the apex could not prevent the introduction into the lung of the full volume of air required, provided that the cells at the base could be first sufficiently emptied, and that the requisite amount of muscular power and space in the abdomen could be obtained.

It may also be inferred, that if it be possible to keep the air cells of so large a part of the lungs permanently distended beyond the natural degree, there would be a more limited interchange of gases; and it would be of interest to determine the effect which this would have upon the chemical changes and the circulation of blood in the lungs. Hence, in states of disease in which the mobility of the chest is lessened it is a desideratum to determine whether that results from the retention of an unusual quantity of air, or simply from an absolutely lessened capacity to contain air.

Such are the results of this inquiry on the two subjects indicated; and whilst I must leave the practical application of them to the physician, in his investigations of chest and throat disease, and to the physiologist in studying the mechanism of respiration, I would conclude by directing attention to the great diversity which exists on these two subjects in the two most widely-spread classes of chest disease—bronchitis and phthisis.

In old bronchitis we find the cavity of the fauces large, the mucous membrane more or less suffused and thickened, and the movements of the throat materially lessened; whilst in phthisis there is commonly a narrowed state of the fauces, attenuation of the lining membrane, and particularly of the arches of the palate, with almost obliteration of the anterior arch, and with perfect and free movement of the throat.

In old bronchitis the chest is fixed at its upper and lateral parts, and the abdomen tucked in, *as in the position of the chest which has been discussed*, rendering the expiration of air extremely difficult, and diminishing greatly the interchange of air. This fixedness of the thoracic walls often extends even to the lowest ribs, leaving the respiration to be performed almost entirely in the direction of the perpendicular axis of the chest. In phthisis there is no fixing of the chest by violent muscular effort; and the cause of the respiration being carried on chiefly at the base is due simply to the closure of the lungs at their upper part.

Hence it is impossible not to notice how completely the cause of the dyspnea differs in the two conditions, how greatly is the respiratory act lessened in bronchitis, and how much the diminution is due to an abnormal action of the inspiratory chest muscles, whereby the collapse of the chest is prevented during expiration, and the expiration greatly impeded—a condition evidently greatly connected with cerebro-spinal action, and to be treated on that indication much more than has hitherto been practised.

ART. IV.—*Removal of Superior Maxillary Bone, for Malignant Disease.* By JOHN K. BARTON, M.D., T.C.D., F.R.C.S.I., Surgeon to the Adelaide Hospital, &c.

WHEN a case of advanced malignant disease is presented to us, in which, from the implication of the neighbouring glands, and other

symptoms of a general infection of the system, it is quite evident operation cannot avail, our duty, although a painful, is a plain one, viz:—to inform the patient of the helplessness of our art to do more than merely palliate the sufferings, caused by a disease which will certainly prove fatal, and which sufferings would only be aggravated by an operation which could not remove the disease. When, however, the case presented to us is one in which the disease is strictly local, and yet is of such a malignant character as to leave us no hope of its non-recurrence after removal, we are placed in a much more trying and difficult position; the questions we have to decide are: will an operation prolong life? and if so, for how long?

The patient anxiously demands to know, can we save him from his terrible disease?—and if we cannot do this, for how long can the fatal issue of it be postponed? and he is willing to undergo any operation, by means of which we will engage to prolong, if not to save, his life. In the present state of our knowledge we cannot answer these questions so accurately as we or our patients could desire. Every circumstance of the individual case before us must be separately weighed and given full consideration to:—1st. The *form* of the disease, whether it is medullary, scirrhus, melanoid, or epithelial. 2nd. The situation and relations of the disease. 3rd. The age, general health, and family history of the patient; before we can even give an approximate answer to the question, how long will the return of the disease be prevented by operation? Now, while each case must undoubtedly be tried and decided very much upon its own merits, yet, if I may judge from my own feelings, while considering the propriety of operating in the case I am about to relate, the surgeon will be very glad to know of a case in point; in fact, when the question to be decided is so nice a one, as the probability of the return of the disease in any particular case, the record of every similar case is of great value.

The following case was believed by all who examined it, to be one of medullary cancer, growing from the alveolar border of the upper jaw, upwards into the antrum, and downwards into the mouth. It appeared to be limited to the posterior part of the left superior maxillary bone, and there was no enlargement of glands. What finally made me determine upon operating was:—That the patient, after being put in possession, as fully as I could inform him, of the nature of his disease, and the usual time when such disease returned after removal, took time to consider, and consult his

friends, and then made up his mind to have it performed with as little delay as possible.

The results so far, viz. :—no return of the disease, either in the mouth or elsewhere, between eight or nine months after operation must be considered very favourable.

CASE.—Robert Hawthorne, 49 years of age, a stout strong looking man, a small farmer in the North of Ireland, came up to the Adelaide Hospital, upon the 2nd of October, 1861, and was admitted under my care. The left cheek was slightly protruded, as if a body about the size of a walnut was being held between the back upper teeth and the cheek; to the feel this tumour was soft and elastic. When the mouth was held open, a dark purplish looking fungus was seen to occupy the place of the three last teeth in the upper jaw, projecting about an inch into the mouth, and, where it came in contact with the teeth in the lower jaw, presenting a greyish sloughy appearance. The finger passed well into the mouth could be carried round this tumour; posteriorly it did not appear to extend further than the socket of the last molar; internally it was very well defined from the palate, while externally, it seemed to pass into the mucous membrane of the cheek. The tumour seen externally was not caused by this growth seen in the mouth, for it was higher up than the tumour in the mouth, it seemed to be caused by a growth in the lower part of the antrum. An offensive bloody discharge was continually running from the mouth; the growth was the seat of constant lancinating pain.

The history of the case was as follows:—He had enjoyed uninterrupted good health all his life, until about nine weeks before his admission to the Hospital, when he began to suffer severe pain in his face, and left side of his head. About a week after he was attacked by this pain, which was growing daily more severe, he noticed a red fleshy looking body projecting slightly from the socket of the second molar tooth in the left upper jaw, which had been extracted many years before; this increased rapidly, and very soon he found that the tooth behind it was loose, and it soon came out. He was now seen by Dr. Malcomson, of Banbridge, who, recognizing the malignant nature of the growth, advised him to come to Dublin, in order that if it was advisable it might be removed at once. Soon after this he was seen by Dr. Patton, of Tanderagee, who gave him the same opinion he had just received from Dr. Malcomson, but before sending him up to town, he, upon

one or two occasions, freely cauterized the growth, which was followed by very considerable bleeding, and after which it continued to increase as rapidly as before; he consequently lost no further time in coming up to Dublin.

Upon making inquiry whether any of his relatives had died of cancer, he said his aunt had, and his sister very lately died of cancer of the breast.

The poor man was most urgent to have something done, and, immediately upon his admission, demanded whether his disease could be removed or not. Declining to give him any answer for a week, I carefully examined the case every day; it was in a few days apparent that the growth was increasing in size, at the same time it was clearly made out, that it was circumscribed as yet, and that there was no glandular contamination. He was put upon the tincture of perchloride of iron, and, in about a week after his admission, my colleagues having all examined the case, and several other experienced surgeons, all of whom agreed that the disease was malignant, and rapidly growing, I told the patient that his disease was a fatal one, that if nothing was done it would, most likely, continue rapidly to increase, that if removed, it would return, perhaps, very soon, but, possibly, not for many months, or even two or three years. He then demanded to know was the operation itself likely to prove fatal; I said it was not. After considering what I had said he determined to return to his home, see his friends, tell them all I had said, and if he determined upon submitting to the operation, come back in a week. When he left the hospital I did not expect to see him any more, and, I may confess I was not sorry to escape any interference with such a growth; notwithstanding, I felt that should he return, demanding the operation, I would be bound to yield to his wishes.

At the expiration of a week he returned, strengthened, apparently, by his deliberations with his friends in his desire to have the operation performed. His urgent request now was, to have it done quickly. I determined to remove the entire left superior maxillary bone, as the only proceeding likely to accomplish the complete removal of the disease. Upon the 19th of October he was brought into the operating theatre, and placed in a strong chair with a rest for his head, which, as soon as he was seated, was laid back against a firm table, so as to bring him nearly into a recumbent position. Chloroform was then administered; as soon as he was fairly under its influence, he was brought into a

more upright position, and I immediately passed a strong sharp-pointed bistoury through the cheek near the angle of the jaw, and drew it forwards to the mouth, which was thus laid open. A second incision, at right angles to the first was then made, parallel to the descending ramus of the lower jaw, and behind the tumour; the flap thus formed was then quickly dissected up, the facial artery, and a few other twigs being secured. The diseased mass was now exposed to view, it was soft, almost gelatinous in appearance, and involved the whole posterior part of the bone. A tooth having been extracted, the palate was divided with a strong cutting bone forceps, then the nasal process of the superior maxillary bone was divided with the same instrument, and then the malar bone, where it joins the superior maxillary, at the outside of the orbit, was nipped across, an inch of the floor of the orbit being included between these last divisions of the bone. The bone, including the diseased mass, was now grasped in a lion forceps, it immediately divided into two parts, the anterior first coming away, and exposing the interior of the antrum to view, partially filled by the malignant growth. A second application of the forceps brought away the posterior part of the bone, with the diseased mass. A careful examination was now made to ascertain if any of the malignant growth remained, every structure which appeared like it was freely removed, and, finally, the actual cautery was applied to the bottom of the wound, after which dossils of lint were carefully packed in, and the ligatures being brought out near the angle of the jaw, the flap was replaced and held accurately in position by three or four hare-lip pins, after which the patient was removed to bed. The chloroform was not kept up after the first incision, it saved him, however, the pain of the cutting of the flap, perhaps, the most painful part of the operation.

Upon examining the parts removed, after the operation, we found the diseased structure firmly adherent to the alveolar border of the jaw, but free and unattached in the cavity of the antrum; it had a gelatinous appearance, streaked with red vessels. I examined it microscopically, and could not satisfy myself, that the appearances presented were the same as those of medullary cancer, they looked more like colloid. It was examined, however, by two others, better qualified than I am to give an opinion on this point, only one of whom declared the caudate cells to be distinctly visible.

The wound united remarkably well. Upon the fifth day, when the last pin was removed, the whole horizontal incision, from the

mouth to where the vertical incision met it, near the angle of the jaw, was firmly and evenly united. The patient partook freely of all kinds of fluid nutriment, the mouth being daily syringed with a solution of chloride of lime in warm water. In about ten days the pledgets of lint began to come away by the mouth, and by the end of three weeks all had been removed, either by the external wound, or by the mouth. The cheek looked sunken, and the articulation was imperfect, but the ball of the eye remained well in its place. I was, of course, daily looking to see if there was any appearance of the disease, but none presented itself during his recovery in the hospital, which he finally left about Christmas, since which time I have repeatedly heard of him, each account bringing the gratifying intelligence that there was no return of the disease, and that his general health was much improved. In April Dr. Malcomson kindly examined him for me, and wrote to me as follows:—"I saw Robert Hawthorne a few days since, there was a little swelling of the upper lip, extending to the cheek, in the direction of the cut; I did not consider it of any importance, and was probably caused by the east wind which was then very cold; it had no appearance of a return of the disease whatever."

And again upon the 16th of June, Dr. Malcomson writes:—"I have examined Hawthorne particularly; he is doing very well, and much improved in health; there is not the slightest appearance of the disease returning; the tumefaction of the cheek is greatly gone."

Thus we have the patient eight months after the operation, quite free from his disease; his general health being better than before. This must be considered a favourable result, even were the disease to return immediately after this—and one which vindicates the propriety of the operation.

There may, perhaps, be a doubt felt by some, on account of the unsatisfactory result of the microscopic examination, and from there being no return of the disease for so long, whether it was malignant at all or not. I have, myself, no doubt whatever of its malignant character, nor had any of the many experienced surgeons who examined the case with me before the operation. Dr. Geoghegan, than whom no surgeon is more familiar with all forms of malignant disease, seeing it as he does at the Incurable Hospital, pronounced it cancerous almost before he looked at it—the smell alone being to him proof positive of its nature.

The chief interest of the case seems to me to be, that it proves that the superior maxillary bone may be removed with advantage

when the seat of fungoid or medullary cancer, even when the disease is rapidly growing; but before it has extended beyond the bone. I hope no one will imagine I am advocating an indiscriminate removal of malignant growths, particularly when affecting such a part as the upper jaw: far from it, I am fully alive to the necessity of refusing even the most earnest entreaties of a patient, when we have reason to think the disease has infected the glands, or other parts which we cannot remove, if we would save our patients from needless suffering, and ourselves and them from disappointment. But I maintain that the rapidity of growth of a tumour, provided it is still local, is a reason for, and not a reason against removal. For if left to itself it will quickly involve the neighbouring tissues, and by the increasing cachexia, produce death; whereas, if removed, as the case I have related shows, not only may the disease not return for many months, but, the general health be much improved. No invariable rule can be made for such cases; nor does our case prove more than that the operation *may be* performed with advantage for this the worst form of malignant disease; but by adding another to those already recorded, it will influence an opinion formed upon a consideration of all. It also shows that the locality of the disease, the upper jaw, makes no exception to the truth of Mr. Paget's observations upon the removal of medullary cancer in general. He says,^a "the hope of finally curing the disease by operation should not be entertained. Such an event may happen; but the chance of it is not greater than that of the disease being spontaneously cured or arrested; and the chance of any of these things is too slight to be weighed in the decision of any single case. The question in each case is, whether life may be so prolonged, or its sufferings so diminished as to justify the risk of the operation. In general, I think, the answer must be affirmative wherever the disease can be wholly removed, and the cachexia is not so manifest as to make it most probable that the operation will of itself prove fatal."

The sequel of this case is yet to be told, whether the very faint hope of the disease never returning should be realised, or, should it return, which I look upon as almost certain, where and when.

Years may, I hope will, elapse before these can be answered, and the case completed. I hope by the kind aid of Dr. Malcomson, of Banbridge, near whom the man resides, to watch the case carefully, and record its termination.

^a Surgical Pathology, Vol. ii., p. 209.

ART. V.—*Phlorydzine*, and its Uses. By DR. DE RICCI.

MANY years ago, when quinine and its salts still retained their high original price, I instituted a series of experiments on different substances, both organic and inorganic, for the purpose of testing their respective value as antiperiodics in the treatment of fevers and other diseases of an intermittent character.

Anxious, if possible, to become independent of foreign remedies—a supply of which, in case of a war, might become precarious—I specially devoted myself to the investigation of those which would easily be obtained at home—and, among others, to salicine and phlorydzine, which at that time were attracting much attention. After a long series of oft-repeated experiments, I came to the conclusion that they were both vastly inferior to quinine in their antiperiodic qualities; and having assured myself that we possessed in arsenic a remedy even more powerful than quinine, while it acted also as a prophylactic against paludal infection, I concluded my investigation; but having, as I thought, observed some peculiarities in the action of phlorydzine different from that of other bitter principles, I still continued to employ it from time to time in such cases as seemed to me best fitted for its administration, and according as I could obtain supplies of it, watching its effects and accumulating evidence as to its value in the treatment of disease. Owing to different circumstances my researches were often interrupted, but I constantly resumed them whenever the opportunity offered; and during the last two years I have been able to carry out an uninterrupted series of them, which, added to my past experience, enable me to lay a satisfactory digest of the matter before my professional brethren.

Phlorydzine is a neutral principle which exists in considerable quantities in the bark of the root of the apple, plum, and cherry tree—also, I believe, in some others; but principally in the root of the apple tree, from which source we are mainly supplied. Phlorydzine, as at present in the market, is in the form of a powder of a dirty white colour, consisting of broken up silky needles, in appearance not unlike quinine which has not been well bleached. When rubbed between the fingers it has a soft velvety feel, very like that of French chalk; but if the substance be crystalized by the slow cooling of a dilute solution, previously treated with freshly prepared animal charcoal, it will then be obtained perfectly white,

and in the form of long, flat, brilliant, silky needles.^a Its taste is peculiar; it is very bitter at first, but ends by leaving a somewhat sweetish taste, with a flavour of apples, on the tongue.

This substance is represented by the chemical formula $C_{21}H_{11}O_8 + 4Ag$; it contains no nitrogen; thus differing from quinine, and resembling more its congener salicine, the formula of which is $C_{21}H_{12}O_9 + 2Ag$. Like salicine, it does not combine with acids to form salts; it is very soluble in alcohol, ether, or boiling water; but requires 1,000 parts of cold water for its solution. In its behaviour with reagents, however, it differs totally from either quinine or salicine; and its reaction in the presence of ammonia is sufficient to distinguish it from any other known product. If over a vessel containing water of ammonia is placed a capsule containing a thin layer of phlorydzine, and the whole is then covered with a bell-glass, so as to allow free access of air, the contents of the capsule will, in a short time, be converted into a gummy substance of a black colour, very soluble in cold water, which it colours of a beautiful violet blue, more or less intense according to the quantity employed. This substance, according to Sir Robert Kane, would seem to consist of phlorydzine combined with five atoms of oxygen and one of ammonia; its formula would consequently be $C_{21}H_{14}O_{13} + Ag$; it is not, however, a salt of ammonia, because the alkalis dissolve it without alteration. This substance, to which has been given the name of phlorydzein, is, as I said, extremely soluble in cold water, while phlorydzine, is very insoluble. Like phlorydzine, it is intensely bitter; its colouring properties are so great that one grain is sufficient to tinge deeply with blue a quart of water, to which it imparts not only the colour but the power of dissolving a much greater quantity of phlorydzine; and I have availed myself of this property when prescribing it in solution.

The cases in which I have employed phlorydzine with most success have been those forms of atonic dyspepsia, occurring in delicate females, to whom it was impossible to administer either bark, quinine, or salicine in any shape, without bringing on serious nervous excitement. I have also found it extremely well adapted for the treatment of young children of delicate constitutional habit, or when recovering from hooping cough, infantine fever, or any other disease. I have given it in these cases combined with syrup of phosphate of iron and manganese, and with syrup of iodide of

^a See Stass in *Annales de Chimie et de Physique*, Vol. lxi.

iron. The doses I have been in the habit of employing are five grains, three or four times a day, for adults, and proportionately smaller ones for young children.

I recommend a trial of this remedy in every adult case where quinine is not easily tolerated, as also in every case where young children require a tonic treatment either in consequence of constitutional debility, or from the debilitating effects of some previous illness; it is much more easily taken than either bark, quinine, or salicine, the bitter being of an agreeable kind, and changing, as I said above, into a sweetish taste, with the flavour of apples. I have never known it to disagree, even in large doses of 10 grains three or four times a day; and I have, in very many instances, found it of great use where other tonic substances could not be taken.

In prescribing phlorydzine it must be borne in mind that it is almost insoluble in cold water; but the addition of a very small quantity of ammonia instantly dissolves it; thus, by adding to an eight ounce mixture, containing a drachm of phlorydzine, a few drachms of aromatic spirit of ammonia, the fluid, which previously was milky, becomes perfectly clear; and the addition of the aromatic spirit rather improves the mixture than otherwise.

If a small quantity of phlorydzein be previously added to the water its solving power is increased, and the mixture will be of a beautiful blue colour, but it will not dissolve as much phlorydzine as when aromatic spirit of ammonia is employed.

I could subjoin several cases from my notes where the effects of phlorydzine have been manifestly favourable; but I do not wish to tire the attention of the reader, and shall content myself with giving the details of one which came under my notice last summer. It was an unmistakable case of chlorosis occurring in a young lady of a decidedly strumous constitution, well characterised by the clear blue eyes, broad square under jaw, transparent complexion, and decided auburn hair. Her mother informed me that she had been ill for about 18 months, and that during that period many remedies and many doctors had been tried, but unavailingly, as her daughter could not take iron in any shape, and that was the drug which had been invariably prescribed. I at once took the opportunity of telling her how injurious it was to the patient, and how unfair towards the medical man to be so constantly changing her physician, and gave her to understand, in very determined, still most courteous language, that I would much rather have nothing to do with the case if she did not intend to give me fairer play than she had given to the

other doctors. I suppose I rather astonished the elder lady, who had not been in the habit of hearing such decided language, and which to her ears sounded somewhat almost like impertinence; she, however, agreed to leave her daughter in my hands for at least four months. Taking for granted that there was either some idiosyncrasy against the use of iron in the case, or that her nervous system was, from disease and weakness, unable to bear it at the time, I commenced by prescribing grain doses of quinine, in wine, three times a day, requesting her to come again in a few days to inform me of how it agreed. She returned on the second day; she had then taken four doses of quinine. She told me it had affected her in a very strange manner; shortly after each dose she had been attacked by the most unpleasant feelings in her head; it was not pain she felt; it was rather a strained, tightened feeling inside her head, especially at the back of her eyes; she did not complain of noises in the ears, but every sound seemed much louder than in reality; and her own voice, when speaking, reverberated and re-echoed through her brain in the most distressing manner. This state of affairs generally commenced about half an hour after taking the quinine, persisted for about two hours, and was followed by considerable lassitude. I at once stopped the use of quinine, and prescribed two-grain doses of salicine in infusion of orange peel, with aromatic spirit of ammonia and chloric ether. In three days the patient returned, giving a somewhat better account of herself; but the effect of the salicine had been unsatisfactory; it had acted in a similar way to the quinine, only in a lesser degree. Her appetite was, however, improved, and she felt less languid, so I determined to persevere with tonics; and thinking this was a favourable case for giving a trial to phlorydzine, I prescribed five grains of it in half a wine-glass of sherry, three times a day. I did not see the patient for a week—when she came to tell me that the medicine *agreed quite well*, that her appetite was very much improved, that she had lost much of her lassitude, and that on the whole she felt considerably better. I desired her to persevere, and to return in another week. Before the end of that time, however, she walked into my study one day to tell me that she felt a most uncomfortable sensation of weight in her stomach every day after dinner; that her appetite was greatly improved; but that after eating she always felt uneasy, and especially after dinner, when she always felt as if she had swallowed a lump of lead; but that she was quite free from any unpleasantness in her head. I desired her to continue the

phlorydzine; and, in addition, to take, after her dinner, 10 grains of pepsine sprinkled between two small and thin slices of bread and butter. I saw no more of my patient for a fortnight; at the end of that time she again made her appearance in my study; she looked brighter and more cheerful than usual; she told me that she had quite lost the unpleasant feeling in the stomach after taking the pepsine, which she had now dropped for the last four days without any inconvenience; and that the phlorydzine was agreeing well with her. I thought it now high time to begin the introduction of a little iron into her system, and I gave her the citrate of iron and strychnia, in grain doses, three times a day. This agreed perfectly. After a short time I ordered her to the sea side for change of air; and had the satisfaction of seeing her return to town in perfect health.

In this case it is evident that the intolerance of the iron was not due to any constitutional idiosyncrasy, but to an enfeebled condition of the gastro-intestinal tract; this was to be corrected and removed by such remedies as increased its tone and vigour. Quinine was tried, but she could not bear it; then salicine was tried, but also unsuccessfully; against these substances she evidently had an idiosyncrasy. Phlorydzine, on the contrary, was well borne, and perfectly succeeded in carrying out my views. I could add several cases more, especially among young children, where phlorydzine fulfilled my purposes to perfection, and where neither bark nor quinine could be tolerated.

In conclusion, let me again recapitulate the advantages of this drug: it is tolerated where neither quinine, nor salicine, nor bark can be administered with impunity; it is particularly adapted to young children; it is not expensive; and we are not depending for its supply on the rapidly-diminishing cinchona forests of South America, but have abundant supplies of it at home.

ART. VI.—*On the Therapeutical Action of Veratrum Viride.* By
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U.S.A.

THE *veratrum viride* was brought to the notice of the medical profession in America, by Dr. Charles Osgood, of Providence, R.I., in a paper published in the *American Journal of Medical Sciences*, in 1832. Dr. Osgood derived a portion of his information

from his preceptor, Professor Tully, of Yale College. At that time it attracted a good deal of notice as being analogous in its therapeutical effects to a plant of the same natural order of the *Melanthaceæ-Colchicum*. After this it fell into disuse, and it is now about twelve years since it has again been brought before the profession of the New World as a sedative agent. To Dr. W. C. Norwood, of Cokesbury, S. C., belongs the credit of first calling attention to the unusual virtues of this medicine as a sedative in inflammations, and he induced many in the South to test its powers with success.

The writer was also led, by hearing of its remarkable properties, to test it in his father's and his own practice as an independent experiment. He collected the root, made the tincture by displacement, and gave it to patients carefully. These essays were satisfactory. Then he distributed some of this same article to the members of the Middlesex East District Medical Society, (Mass.) for systematic trial, and so pleased were they, that a committee of three were appointed to bring it before the Massachusetts Medical Society, in May 1858. The committee distributed, gratis, about 400 two-fluid-ounce phials of their tincture, made from roots mainly collected by themselves. These phials were accompanied by suitable labels, and a descriptive circular, together with a mutual paper, made up of contributions from the members of the Middlesex East District Medical Society. This paper was published in the journal above alluded to, in October, 1858. In time, returns were received by the committee from the Massachusetts Medical Society, the substance of which formed a second paper, which was also published, in October, 1861.—(*Ut supra*.)

Besides this, other medical bodies and individuals, as the Indiana and Illinois Medical Societies, have investigated the *veratrum viride*, though not in the same thorough way, so that from the evidence already accumulated it seems clearly proved that the *veratrum viride* is a depressant of remarkable power. But how does it act? Some, looking at its primary action upon the heart and circulation in lowering the fulness and frequency of the pulse, deem, and call it an *arterial sedative*. On the other hand, those that regard the secondary effects that attend the full dose, class it as a *nervous sedative*.

Let us examine this more closely.

The uniform testimony of those who have observed its action upon the human system in health is, that the primary effect is in

Fig. 1.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 2.



VERATRUM VIRIDE.

Fig. 1, the plant ; Fig. 2, the root ; Fig. 3, the flower ; Fig. 4, the seed envelope ; Fig. 5, the early appearance of the plant.

the prompt lowering of the pulse from its normal standard to 52 or 40 pulsations in the minute. By prompt, is meant its action within one hour or two. This, except the impression upon the palate, is the first phenomenon generally noticed. The subject feels nothing peculiar. His mind is not clouded, and he may attend to ordinary duties without inconvenience. The urine is somewhat increased in quantity, and lowered in its specific gravity. Whether there is any further morphological change has not yet been determined. Nor yet whether the alkaloid of the *veratrum viride* is found in the urine of the person who is under its influence in health.

Now this simple sedation of the heart and circulatory organs, without interfering injuriously or notably with the performance of other functions, may be maintained for some time. This has been found of value in such affections as organic cardiac diseases, headaches dependent upon arterial excitement, and the milder sthenic and asthenic fevers. Practically, it has been found to bear out the analogous effects that it produces in its physiological use. In this manner the *veratrum viride* removes, in inflammation, its most prominent characteristic symptom. Destroy the quickness of the pulse in pneumonia for instance, and you strip the disease of one of its evils. The congested and inflamed lung, already loaded to the utmost, with the pulse at 120, is still further gorged by blood, which, allowing that two fluid-ounces of blood are expelled at each pulsation, is propelled at such a rate as would accomplish the whole round of the circulation in a minute or a minute and a half. The time for aëration is thus diminished one-half. Of course the respiration is quickened in the endeavour to respond to the increased demand for vitalizing air. The exudation process is accelerated, and solidification sooner ensues. Now, the *veratrum viride*, by reducing the heart's pulsations from 120 to 60 (or any other medium point you choose, by graduating the dose in quantity or frequency) diminishes the force and fulness of the circulation, by reducing its rapidity. The pulmonic and systemic rounds are accomplished in a longer time, and the danger of overwhelming the lung is lessened. Not that the inflammation is arrested or destroyed, but both the lung and the economy in general are enabled more easily to bear the phlogosis, and, what is still better, the processes go on more readily and safely to a healthy termination in resolution.

Besides adding to the personal comfort of the patient, in abating the violence of his heat and fever, the *veratrum viride* thus

affords him a speedier convalescence than if he had not been interfered with. There is not such an expense of vital force as is necessary to keep up the inflammation to a high pitch. The intensity is lowered. The pabulum is not fanned to so high a glow. The excitement is abated. So there is a much wiser and more economical expenditure of the *vis medicatrix naturæ*.

Are not these indications worth following out? Now, this degree of action of the *veratrum viride* may not be attended with injurious effects upon the economy *per se*. It is well borne in health, and, from practical experience, it is known to be well borne in disease. Besides pneumonia, this slow-pulse treatment has been found well adapted to other phlegmasiæ. In rheumatism, pleuritis, scarlatina, typhoid fever, and in the whole range of inflammatory diseases these indications have been desirably carried out by means of the *veratrum viride*.

All these uses, in directly diminishing the fulness, force, and frequency of the heart's pulsation, and the consequent diminution in the frequency of the respiration, with the slight diuresis, as developed in its employment in health and disease, seem to indicate its direct action upon the circulation as an *arterial sedative*. However, the *veratrum viride* does not appear directly to change the chemical character of the blood by altering its constituents and its plasticity, as arterial sedatives are said to do.

When the *veratrum viride* is taken in maximum doses of eight minims, and pushed to a full effect, the following phenomena are witnessed in health:—

- 1st. A reduction of the pulse, sometimes to 30 beats in a minute.
- 2nd. Nausea and vomiting.
- 3rd. Profuse sweats.
- 4th. Coldness of surface, subjective and objective.
- 5th. Reduction in the frequency of the respiration.
- 6th. Dilatation of the pupils.
- 7th. Nervous sensations, such as numbness all over the body, tingling in the extremities, muscular weakness, inability to move, and a feeling of immediate dissolution.
- 8th. Pallor of countenance, &c.

In disease the same results are witnessed, only “more so.” The increase of secretions is more marked. Now, such results seem to rank the *veratrum viride* as a *nervous sedative*, since its action is so much upon the great nervous centres.

If pushed, after such effects, no doubt life could be destroyed ;

but no fatal, well-authenticated case, has come to the knowledge of the writer. The largest dose he has known to be taken was one fluid ounce of the tincture of the root, which only is officinal. This was swallowed, by mistake, by an invalid lady, of middle age. In half-an-hour it was vomited, and the patient regained her status in about a day. During the action of the dose, she was able to ride some fifteen miles in a chaise.

Now, these secondary full effects of the *veratrum viride* have been found of great value in arresting the too great action of sthenic inflammations. Sometimes, indeed, when thus given, its use is followed by such an immediate change in the character of all the symptoms, that the disease seems to be annihilated, as if by magic, and convalescence established at once. Such results have been witnessed in pneumonia and puerperal peritonitis. Venesection acts thus sometimes.

Usually, however, it is found best, after having thus once established this full impression, to keep it up by repeated doses, diminished in quantity and frequency. Thus you may, as it were, hold the inflammatory action at bay. The *veratrum viride* may be continued thus till convalescence be established.

One gratifying characteristic of the *veratrum viride* is the promptness and surety of its action. Many practical physicians have testified to this, while a very few have reported to the contrary.

When, from idiosyncrasy or other unknown cause, the veratrum viride fails to produce its alleged effects, it is a good plan to push on to nausea, by doses given once an hour, and then, if the peculiar effects do not follow in lowering the pulse, the failure must be charged to the drug. For the *veratrum viride* is not a specific. No pure specifics are known in the materia medica. But it is safe to call the *veratrum viride* as sure in its effects as opium or quinine, which sometimes disappoint our expectations.

The great point in the *veratrum viride* is its use in sthenic inflammations, where the lancet is indicated, and in those numberless cases where a depletory effect is to be maintained, but in which depletion cannot be borne. There are once in a great while cases where the lancet cannot be dispensed with, but even then the *veratrum viride* is an excellent remedy to follow and keep up the impression of the primary depletion.

Compare the effects of the *veratrum viride* with those following the loss of blood. These may be characterized as threefold, namely: 1st, As diminishing the force, frequency and fulness of the pulse,

directly ; 2nd, As a sedative upon the nervous system, indirectly ; and 3rd, As diminishing the quantity and quality of the vital current, by a direct withdrawal of a portion of the solid constituents. Now, we have seen that the veratrum viride possesses the two first characteristics. The latter characteristic, just the one that we want to avoid as injurious, does not attach to the veratrum viride. There is no loss of red and white corpuscles, with other constituents to be made up, although there is a secondary depletion by the increase of the secretions. Again, depletion sometimes defeats its own object in cases where, by endosmosis, the blood regains its quantity, rendering a secondary or even a tertiary venesection necessary, when the patient is less and less able to bear it. Now, on the other hand, the veratrum viride can be repeated and its impression continued for an indefinite time. Having once, as it were, got the disease under, it may be kept so. Yet again, there is a large class of subjects in whom, from nervous susceptibility and weakness of constitution, depletion is wholly forbidden ; *here* is the field for the veratrum viride, when such are attacked by inflammatory complaints. Moreover, veratrum viride can be given in connexion with stimulants, where a tonic and yet depressing effect is required. It is so given in wine in some cases of puerperal and typhoid fever. Also in the irritative fever following burns, wounds, cuts, and surgical operations, it is found to answer a good purpose.

Compared with digitalis, the veratrum viride is prompt, sure, and not cumulative ; while the former is slow, sometimes uncertain, and cumulative. Both are diuretic, but the veratrum the less so.

Compared with the tartrate of antimony and potassa, the veratrum viride does not generally act on the bowels, or change the character of the secretions like the former. Nor are its effects so permanent, for, when omitted, it seems to be quickly eliminated.

In fine, the veratrum viride is well worth a fair and patient investigation at the hands of intelligent physicians and surgeons ; and it may not be improper to state, that the writer has placed within the reach of the house of Bewley & Evans, in Dublin, a supply of the tincture of veratrum viride, exactly similar to that submitted to the Middlesex East District and the Massachusetts Medical Societies.

ART. VII.—*Further Observations on Typhus and Typhoid Fevers, as seen in Dublin; especially the united form they assumed during the first half of the year 1862.* By HENRY KENNEDY, A.B., M.B., one of the Physicians in Ordinary to Sir Patrick Dun's Hospital.

IN May, 1860, a paper of mine was read at the Royal Med.-Chirurgical Society of London, "On Typhus and Typhoid Fevers, as seen in Dublin." Its main object was to show, that whilst these two types of fever could, in the great majority of instances, be distinguished from each other, it was yet essential that they should be considered as the result of a common poison; and that no other view of the matter either would or could meet all the difficulties which surrounded the question. Nothing has occurred since to alter the views then advanced. But I have had some additional experience, both in hospital and from books; and, as the subject is by many still considered unsettled, have thought well of bringing it once more under the notice of the profession. Some, for whose opinion I have a high respect, consider the questions involved of no moment, or at best of mere scientific curiosity; and have even gone so far as to state, that there is no occasion for a difference of treatment in the types of fever known as typhus and typhoid. I believe this to be a grave error; and that no one who has to do with fever, on the large scale, could possibly give his assent to it, as he knows that the diagnosis, prognosis, and treatment, are all essentially modified, according to the type of fever with which he has to deal. The recent deaths too of more than one illustrious person, from fever, have not tended to lessen the importance of every point connected with the subject.

Before entering on the more immediate object of this paper, I think it necessary to notice a line of argument which has been followed by many, especially in London. All are aware that Dr. Jenner, of that City, has published an elaborate monograph *On the Identity or Non-identity of Typhoid and Typhus Fevers*. In it he has avowedly omitted all notice of the labours of others in the same field; and has come to the conclusion, that the two fevers are essentially different, and the result of different poisons. Now in a wide spread disease like fever I can scarcely conceive a mode more likely to lead to a wrong conclusion. Had the author put forward his views as representing the two types of fever as they came under his notice in London, I could have understood him;

and a very valuable contribution it would have been. But to seek to establish that they are essentially two diseases, both as to causes and symptoms, is going farther than any present experience will justify. Other observers, equally competent with Dr. Jenner, have seen fever, and, it may be observed in passing, on a much larger scale; and—what might have been easily anticipated—have come to an opposite conclusion. Yet, at the meeting in London two years since, not one member of the society expressed even a doubt on the matter. Their views were limited to London, and nothing outside it could alter them. If this be the right way of dealing with such a question, I must indeed be much mistaken. It is true that since then more than one gentleman seems, from cases which were brought before the London Pathological Society,^a to have had some misgivings on the subject; and, if I recollect right, Dr. Copland, on one occasion, spoke of the necessity of caution in coming to too strict a conclusion about the types of fever. Still the fact remains, that the London physicians seem to have ignored anything but what has occurred in their own city.

But another and more serious objection exists against the monograph of Dr. Jenner; or taking it as the foundation of a theory on this much debated question. The conclusions at which he has arrived are avowedly based on 64 cases only; and, as these were all fatal, it follows that his deductions were founded on a minority, and that a very small one. For it cannot be supposed for an instant that the fatal cases formed the majority. Can I be wrong, then, in asserting that the natural history of no disease—and this is really the question at issue—is to be learned from such premises? A very good, and, no question of it, a very faithful record the monograph is, as far as it goes; specially on the morbid anatomy of the types of fever of which it treats. But to suppose that it either can, or ought to teach us their natural history, is flying in the face of common sense. No one, I think, will for a moment put this monograph

^a One instance given in the *Lancet* of 19th October, 1861, may be alluded to. Dr. Wilks exhibited a specimen of ulcers of the ileum in a woman of 70. He proceeds:—"Thus, in the present instance, the disease would rather have been styled typhus, had not the truth been discovered after death. The woman was nearly 70, in an extreme state of prostration, and delirious; no diarrhoea, and no rash of any kind. All the circumstances existed which should have determined the typhus, rather than the typhoid disease, and yet the latter existed with all its characteristics; a good case," he continues, "in proof of the specific nature of the disease." What disease, I would ask, or rather, which disease? for it is left quite uncertain; as, indeed, the details would leave any reader.

in comparison with that of Huss, who gives us the result of his observations on upwards of 3,000 cases. No, no. The natural history of any disease is to be learned from the living as well as the dead; and, inasmuch as the living constitute the great majority, we prefer to have it taken from them. In Flint's very elaborate work the subject is treated in a different mode; for he avows that he left out all the cases of the type of which he was not quite certain; and took his data from the rest. But this too, is a questionable proceeding; and we must infer that his conclusions are only an approximation to the truth.

What then are the results at which Huss has arrived? His observations being spread over 20 years, applying to different epidemics, and his colleagues all agreeing with him. Why, that the two types of fever, typhus and typhoid, are to be considered as arising from a common cause. At page 10 I find the following passage:—"A number of intermediate forms (that is of fever), were of frequent occurrence, making it utterly impossible to determine the true nature of the case, whether petechial or abdominal, as there were symptoms of both. Often such symptoms were observed as seemed to announce an affection of the intestinal glands; but the *post mortem* examination did not discover any; in other cases these alterations were found, and the symptoms had indicated a petechial form." One of the epidemics he describes, though of but limited extent, seems to me specially worthy of note. It broke out amongst 250 soldiers, all between 20 and 40 years of age, and placed under exactly the like hygienic conditions; and yet "the disease assumed the distinct form of typhus in one part of the cases, of typhoid in another, and a third took an intermediate form."—64 cases occurred. Farther on also he states, that in one house 17 cases occurred within a fortnight; of which 10 were typhus, and seven typhoid.

If these be not facts enough to satisfy most minds, I know not what could be considered such; nor can any observations as to contagion or the locality whence the fever comes, either in London or elsewhere, contravene them.

Another point noticed by Huss—and it is common with us in Dublin—is the change in type of the disease. Thus, at the commencement of the epidemics he describes typhus as the prevailing form; and then later on the fever became typhoid. It is true he did not observe the contrary, but the fact in itself is worthy of notice, as it seems to myself to be much easier of explanation on the hypothesis of there being but one poison, rather than two. And

this leads me to speak of the analogical argument, as it may be called, and which has not escaped Huss, who maintains that scarlatina presents just as striking differences in itself—and none, I think, can gainsay him—as are ever seen between typhus and typhoid types of fever; and I must say it devolves on those who differ from him to answer the argument as they best can. To myself it seems unanswerable.

When I last wrote on this topic I was not aware of a fact which has since come to my knowledge, viz., that the kind of ulceration met in typhoid fever is not confined to that disease alone, but is occasionally seen in other affections. Thus, Flint speaks of a case of scarlatina in which he found ulcers in the ileum. So, likewise, Huss met the same; and Dr. Anderson, of Glasgow, in his Lectures, published in 1861, gives two instances of a similar kind; one being a case of confluent small-pox, and the other one of scarlatina.^a Now, though there are but five such cases in all, they yet appear to me to open up a new question on the subject. Is the intestinal lesion common to all the class of fevers, the exanthemata amongst the rest? Had it been looked for, would it have been more frequently found? The answers to these questions cannot, at present, be given, but must be looked for in future investigations on the subject. I, myself, have directed attention to the great similarity between the intestinal ulcers which sometimes are found in phthisis, and those which exist in typhoid fever; a similarity so striking that the question has often forced itself on my mind—can it be possible the ulcers of this fever are mainly due to the existence of the strumous constitution? Every one knows that they vary both in extent and degree; in other words, they do not necessarily bear a relation with the progress of the fever. The latter may prove fatal, and yet the amount of intestinal lesion be very slight, and *vice versâ*; and, far-fetched as the idea may be, in connecting the ulcers of typhoid fever with the strumous diathesis, there are yet some points may be adduced in its support. Thus, the class of patients in whom this type of fever usually occurs are frequently marked by having a very fine skin, and great susceptibility of constitution. I have seen them also having scars on the neck; and when phthisis chanced to supervene it was far more frequently after this type of fever. But though these are striking facts I would not wish to do more at present than start the idea, of the possible connexion of the intestinal lesion of typhoid fever with the strumous diathesis.

^a Louis also met a similar case.

And now I would speak of the additional experience two year's attendance at Sir Patrick Dun's Hospital has afforded; and believe no better plan can be adopted than by giving the shortest possible details of the more striking cases which occurred. In doing so a large number of cases of a milder character are purposely omitted; not because they arose from a different poison, which it is the fashion of the day to maintain; for they often came from the same room, and at the same time; but because their progress threw no light, one way or another, on the question under discussion. This much, however, is certain—that even febricula exhibits its full share of varieties; and I have seen fever with spots, though not within the last two years, which could scarcely be called other than febricula, it was so mild and required so little care. As to making the cases into a series of statistics, I have long given up the idea. In the present question, as to the identity or non-identity of the typhus and typhoid poisons, I believe they have led, and can only lead, to erroneous results. Had they been confined to points about which there could be no doubt, as the difference of the sexes, or age of patients attacked, advantage would have been gained. But when I find the following conclusions—founded on statistics—drawn, I cannot but question their value. I quote now from Flint's work, published in 1852, page 237:—"General aspect.—Capillary congestion of the face, extending frequently to the extremities, causing a dull red colour, present in all cases of typhus, and in a large proportion of the cases of typhoid. Nervous system.—Passive delirium, manifested by incoherent talking, attempting to get out of bed, present more constantly in typhus; but very active persistent delirium, requiring forcible restraint, characteristic of typhoid. Digestive system.—Appetite, or relish of food, oftener present in typhus. A reddened tongue, occasionally observed in typhoid, and not in typhus.—Diarrhea, present in one half of the cases of typhoid, and in one third of the cases of typhus; in the latter type always mild or slight, but in the former sometimes prominent as a symptom.—Hemorrhage from the bowels characteristic of typhoid.—Epistaxis extremely rare in typhus, occurring frequently in typhoid.—Tympanites present in about an equal ratio in both types; but in typhus almost invariably slight, while in typhoid it is often prominent."

These extracts might easily have been multiplied. To myself they appear to be labour thrown away, being distinctions without a difference; nor do I think they could be available at the bed-side;

some of them too are directly opposed to my own experience. I might instance "active persistent delirium" as being characteristic of typhoid. If there be one general point more than another to separate the two types, I would say it had reference to the brain; and to the greater freedom of this organ in typhoid, when compared with cases of typhus fever. Again, when the author speaks of "appetite, or relish for food, oftener present in typhus." What can be inferred from it? Is it that appetite can be put down as in any way a mark of distinction between the two types of fever? Surely not; the natural history of fevers entirely forbids such an idea. Appetite, as far as I know, is not a symptom of any kind of fever: the very contrary is the rule; and, when it does occur, it is so exceptional that it is not worth a moment's consideration as bearing on the question.

But further: The author states that "diarrhea is present in one-half of the cases of typhoid; and in one third of the cases of typhus; in the latter type always mild or slight, but in the former sometimes prominent as a symptom."—The words are quoted as given in Flint's Work; because the statement is really very startling. I do not for a moment question its truthfulness; but it must strike every one as very strange, that in America only one-half the cases of the typhoid type had diarrhea, and this only sometimes a prominent symptom; whilst in typhus the proportion, presenting the same symptom, was one-third. In Great Britain and Ireland, and I believe on the Continent too, cases of typhoid fever with constipation, are far in a way the exception to the general rule: and on the other hand, typhus attended by diarrhea, in the proportion of one-third, must be considered equally rare. That it does, however, occur, at times in Dublin, I know, of which I shall have to say more again.

Hemorrhage is another symptom, about which there would seem to be a very marked contrast in different places. In Paris, Stockholm, and America, it is described as very rare. In London it was met with in a third of 23 cases of typhoid, and not at all in 43 cases of the typhus type. Hence, Dr. Jenner has come to the conclusion, that intestinal hemorrhage is characteristic of typhoid, and not of typhus. That this is erroneous as regards Dublin, I have no doubt. In another place I have put on record, some 30 cases of well marked typhus—some of them examined after death—in which there had been extensive hemorrhage; and yet not a trace of ulceration was found: and when the patient survived the

bleeding a week, it having ceased, I was unable to say from what part of the canal the blood had come. It must, in fact, have been an exudation. As to epistaxis being a sign of typhoid and not of typhus, I cannot give it credence; and for the simple reason that, for years, I have been noting cases of typhus in which it occurred. I am quite aware that it exists, at times, in typhoid. All I would convey is, that it is common to the two types: and prevails much more at some periods than at others. Thus, with us in Summer, and with the temperature high, it is sure to prevail; no matter what the type of fever may be.

But statistics have been brought to bear on points which I believe have nothing to say to the natural history of fevers. Thus, because erysipelas occurred in some cases, and in typhoid more than typhus, it is put down as a diagnostic mark of the two types; and similar remarks may be applied to pneumonia.^a To my mind it appears a much more rational method to look on them as mere complications; prevailing at one period and not at another; for whilst we have fever of the different types always amongst us, months and months frequently elapse without either pneumonia or erysipelas complicating them. If these be not good reasons for setting them aside altogether—as not bearing on the question under discussion—I am at a loss to know what is.

It would be easy to say much more on statistics, in relation with this subject; but enough probably has been advanced to show the mistakes to which they may lead; as having reference to points—I will not call them symptoms—which are not, and cannot be accurately defined; or which must be placed under the head of complications; and therefore, not belonging to the natural history of fevers. These considerations, at any rate, have induced me to deal differently, and, as I believe, more correctly with the question; and I now proceed to give the briefest sketch of all the serious cases of fever which have come under my notice within the last two years. They are given in the order in which they occurred.

CASE I.—Miss M., aged 16, pay patient, admitted into Dun's Hospital, in June, 1860. Ill with fever of typhoid type 17 days.

^a Louis speaks of erysipelas as occurring with typhoid fever; but he takes special care to tell us it occurred during one year only, and attributes it to what we would call an epidemic constitution. And in Bartlett's Work, p. 66, I find the following:—"Neither the symptoms nor the lesions go to show that the lungs play any very important part in the numerous and complicated phenomena of typhoid fever."

There were diarrhea, slight tympany, pain on pressure, and the usual discharges. But there were no spots till late in the disease, when two of very doubtful character appeared; one on the chest, and the second on the abdomen. Though her eyes were suffused, she had no head symptoms whatever. The tongue, at first moist, then became dry; sordes formed in large quantities, and finally there was oozing of blood from the gums. This organ, in truth, went through all the stages which are more usually seen in typhus fever. The abdominal symptoms did not yield till specific treatment was adopted; of which more again. Later still there was distinct crisis by sweat.

CASE II.—Walshe, aged 28, married, of sanguineous temperament, and very fine skin, was admitted in June, 1860; ill of fever 14 days; typhoid type. She had the usual abdominal symptoms, except that there was no pain on pressure. The eyes were heavy and the mind slow; but there was no raving. The tongue, all through kept moist; at the same time that it was densely coated with a drab fur. The discharges at first yellowish, became darker as the disease went on to recovery. On the 20th day three spots were visible; one on the chest, and two on the abdomen; the latter being very much larger than usual, and not affected in any way by pressure. They remained more than a week; during which period two new spots came out on the left side of the abdomen; not so large as the other two. Though diarrhea had ceased, and fever in a great degree with it, still a marked crisis occurred by sweat, which lasted several hours.

CASE III.—A boy of 16, of a strumous aspect, and fine skin, was admitted in July, 1860; after being ill several days at home; but the number uncertain. He had all the symptoms of typhoid fever in a very aggravated form; attended by raving and bawling at night; and this went on even when the abdominal signs had materially subsided. The rash was much more extensive than usual, and might be described as measly; being darker on the trunk and lighter on the arms. After a very marked improvement this case relapsed; all the symptoms, including diarrhea and raving, got worse and worse. The boy was removed from hospital two days before death. It is worthy of note, that during the apparent improvement his pulse never came down.

CASE IV.—Miss S., pay patient, aged 17, of sanguineous

temperament, and the finest skin; admitted, July, 1860; labouring under fever which she had attributed to a severe wetting. Except that she had diarrhea, with the discharges of a light yellow colour, and then becoming darker before they ceased, this case presented no other symptoms of the typhoid type of fever. No spots, nor tympany, nor pain on pressure. The fever, however, ran on to 21 days. I must leave it to others to give it a name.

CASE V.—Coates, aged 48, admitted, April, 1861; ill eight days of fever, and densely spotted. The spots were not only visible on the trunk, where many were of the most irregular shape, and as if formed from the rupture of a blood vessel; but there were several on the face, and here they were of a much brighter hue than the others. It is enough to say of this case, that all the symptoms were of the gravest character; hands and feet livid; artery at wrist quite distinct to the finger, and yet the pulse barely perceptible; cerebral respiration with stupor; rolling of tongue in mouth, &c., &c. At first there was a tendency to diarrhea, and all through marked subsultus. This man died the 13th day of his illness.

CASE VI.—Coates; the wife of the last patient, took ill a few days later than her husband. She had all the symptoms of the same type of fever; but in an infinitely less severe form. The spots might be described as a mottling, and could only be seen in a strong light. Though the eyes were very much injected there was scarcely any stupor; and her sleep was barely disturbed.

CASE VII.—Coates, aged 22, daughter of last patient, was ill same time, and admitted ninth day of fever. She was spotted to a degree rarely seen; and in this instance the spots were, at first, much darker on the arms, especially about the elbows, than elsewhere. They then became as dark on the body, were quite plain on the face, eye-balls, and eye-lids; and gave a very peculiar expression to the face. All the other symptoms were equally severe; pulse 130, hands and feet livid, and very great distress, particularly at night. But there was one symptom she did not exhibit. The brain remained comparatively free. It is enough to add, that after a prolonged struggle, this case recovered; crisis occurring by sweat and sleep; each prolonged over nearly three days.^a

^a This case was the more remarkable as she laboured under chronic phthisis at the time; and, as I believe, adherent pericardium; for she had been under my care previously, suffering from acute rheumatism and pericarditis.

CASE VIII.—The sister of last patient, aged 19, when seeing her people in hospital, fainted, and from that moment her fever began. Like the last she was extensively spotted, even on her face; but the spots were brighter on the arms than elsewhere. She presented no peculiar symptom, and made a rapid recovery.

CASE IX.—Oxford, shoemaker, aged 18, fine skin, admitted May, 1861, with fever of typhoid type. He described the attack as commencing on a particular day; nor did he vary from this though asked several times. He had all the usual symptoms, including a few spots on the chest and abdomen. His nose bled early in the attack, and again on the ninth day it bled three times; still later, on the eleventh day, he lost some blood from the bowels, but not in serious quantity. His recovery was rapid.

CASE X.—Dalton, girl of 20, fine skin, admitted May, 1861. Ill three weeks, but only confined to bed three days. Presents all the signs of typhoid fever in a severe form. Tongue red and densely furred, stomach very irritable, diarrhea, with the characteristic discharges most profuse; no spots visible. Four days after admission there was an effort at crisis by sweat (she was now ill 25 days), but it did not prove salutary, and the fever ran on three weeks longer, during all which time the stomach remained irritable, and also the bowels. But the symptoms had materially declined in severity; still I could not pronounce the patient well; and as signs of hectic now began to appear, it was thought best to send her to the country, her recovery being very doubtful. There can scarcely be a doubt this patient had ulceration of the bowels on admission.

CASE XI.—Mr. —, pay patient, aged 24, had a rigor on Saturday, 27th April; admitted 2nd May, 1861, labouring under fever. Very generally spotted over body, and plainly on the backs of the wrists; none of them dark. Has a musical bruit over the heart, attending the first sound. Eyes injected, skin hot, bowels moved four times during the last 24 hours. Has no pain on pressure nor tympany. As the case progressed the tongue got dry and brown, and sordes appeared; and the bowels still remaining too free, specific treatment was used to moderate their action. Finally, crisis by sweat occurred; this was slight at first, but at the end of 48 hours it had become very profuse, and terminated the fever. The bruit

was persistent. In this case I had the valuable assistance of Drs. Stokes and Hudson.

CASE XII.—Mr. —, pay patient, aged 19, fine skin, admitted August, 1861, with fever of typhoid type; except his having epistaxis three times in one day, and early in the disease, the case presented nothing peculiar, and he got steadily well when specific treatment was used, but not till then.

CASE XIII.—Mr. —, pay patient, was seized with a feeling of illness after remaining nearly half an hour in the sea. For some days he struggled against it, but at last had to keep his bed; and when seen on 23rd day presented all the symptoms of typhoid fever. The spots were well marked, the skin had calor mordax, and there was slight tympany, with pain on pressure, and sharp diarrhea. His nose bled slightly on the 25th day, at a time when his pulse was, in a marked degree, dicrotous. This case was very rebellious to treatment, and ran on till the 37th day; and the tongue began to clean, and become moister, some days before the other symptoms improved. When at the worst this patient presented a curious alternation of raving and stupor.

CASE XIV.—A man of 25, of unusually fine make, and tall stature, was admitted in August, 1861. His skin was very fine. He was ill some days; but the exact number could not be made out, and he had all the symptoms of fever of a typhoid type. There was also great raving, and again stupor. The case got steadily well; except that his convalescence was delayed by the formation of several bullæ on the hips. It was curious that other cases suffered in exactly the same way, at the same time; but they were not under my own care.

CASE XV.—Kernan, a man of 26, fine skin, admitted August, 1861, with fever; ill seven days. For the first two or three days the type of fever very doubtful; then diarrhea began, and spots came out; at first very characteristic of the typhoid type of fever; but in two days they had become a regular crop, of a uniform colour, over the whole body; there were none, however, on the face. Three days later still, a totally different rash appeared; it was distinctly elevated, very plain on the face, and over the entire person, and more like lepra than anything else to which I could

compare it. It came out very rapidly, and lasted exactly four days. The fever, which did not seem to be influenced by it, yielded but slowly. The tongue all through was red, furred, and angry looking, and this condition of it was the last symptom to disappear.

CASE XVI.—Mr. —, pay patient, aged 30, pock-marked, very fine skin, admitted after being 14 days ill of fever of typhoid type. Spots and diarrhea very marked; but there was neither pain on pressure, nor tympany, nor raving. Though this case was not a severe one, it did not yield till specific treatment was used.

CASE XVII.—Nugent, a woman of 30, came in October, 1861, to the hospital, with so little wrong that I had doubts about taking her in. As she had been complaining however for three weeks, had a red tongue, and some pain in abdomen, she was admitted. She had no diarrhea. She remained in this state eight days; not well, and yet apparently so little wrong that she could scarcely be said to be ill. The pulse was not raised, no spots had appeared, no tympany, and pressure on abdomen caused uneasiness rather than pain. The tongue, however, remained still very red, but without fur. At the end of the time described, and when she must have been nearly 30 days complaining, fever began to light up. The pulse quickened, the tongue got furred and tremulous; she became deaf, began to rave; subsultus showed itself, with extraordinary tremor of the hands, and, in spite of every care, there was stripping. In this way she went from bad to worse, and died on the 24th day from her admission into hospital; so that her illness occupied at least six weeks. I regret to say no examination could be obtained. It must be left to others to say where they would place this case.

CASE XVIII.—A child of eight years old, private case, was attacked in October, 1861, with gastric fever of a severe form. All the symptoms ran very high; there were raving and great restlessness. In the progress of this child's illness the fever put on all the characters of typhus. The lips and tongue became covered with sordes to a degree rarely seen in childhood; there was great stupor for several days, and tympany in a very marked degree. No spots appeared; the child made a good recovery.

CASE XIX.—M'Kee, a lad of 20, fine skin, admitted November, 1861, labouring under fever of a typhoid type. He had been ill

several days, exact number not known. All the symptoms, including the spots, very well marked. There was not any peculiar feature in this case, except that it proved most rebellious to treatment, not yielding till the medicine was carried to the highest dose.

CASE XX.—Cahill, woman of 30, admitted in last week of November, 1861, labouring under fever of five days' duration. The attack was marked by a pulse of 140, by bright and injected eyes, and raving for the first three or four nights; tongue furred and reddish. but moist, and keeping so. This case proved most embarrassing. It went on day after day without the slightest appreciable change, except that the raving ceased. She was repeatedly examined to see if any local cause existed to account for the duration of the fever; and with this view was seen by Drs. A. Smith, Moore, and G. A. Kennedy, but none was detected; neither were there spots at any time, whilst the pulse kept up to 140. In this way the fever went on till the 32nd day, when sweat appeared; which though very marked and aided by treatment, did not resolve the attack. But it recurred again on the 39th day, and now proved critical; the pulse falling to 96 within the first 24 hours. The sweat lasted continuously for three days, and was to a degree rarely witnessed. It could be seen literally steaming through the blankets. Though a long time very weak she made a good recovery. In former years I have seen similar cases; and believe they are to be set down to peculiarity of constitution, rather than type of fever.^a

CASE XXI.—Boylan, a woman of 50, admitted December, 1861, 12 days ill of typhus fever. She was densely spotted, and sordes so great as to prevent her putting out the tongue; recovered.

CASES XXII., XXIII., XXIV.—Three children of last patient, one girl and two boys, were in hospital at the same time, labouring under fever. None of them were spotted, but one of the boys had a much severer attack than the other two; he was the youngest, being seven years old.

This brings my remarks to the beginning of the present year; when it was observed that fever began to increase; not only in Dublin, but also in some of the healthiest localities about it. A

^a Though several of the cases given presented crisis, I have not thought it necessary to dwell on it in this paper. It will be observed that it occurred in both types of fever. It is certainly much more frequent in some years than others.

large number of the middle ranks were attacked, and in our hospitals the increase was very marked. But the change in type was the most remarkable point observed. As, however, I have reasons for knowing that an account of what occurred in other hospitals will be published, I shall continue to notice only what came under my own eye.

CASE XXV.—Newbottom, a boy 12 years old, admitted in February, 1862; labouring under fever in a very severe form. He was densely spotted, had great sordes, tympany to a very marked degree, and stupor. Some who saw him thought he would die. His recovery was rapid.

CASE XXVI.—A girl of 16, passed through the heaviest form of typhus; during which she was densely spotted. The spots were very dark on the body, but of a much lighter hue on the arms and wrists. She had tympany very marked. Recovered.

CASE XXVII.—Neill, a man of 20, very fine skin, admitted February, 1862. He had fever of a typhoid type, well marked in every respect, except that from first to last no spots appeared. His chest was a good deal engaged.

CASE XXVIII.—Mrs. —, aged 47, living in suburbs; was attacked with fever of the gastric type. The tongue was red, and slightly furred, pulse 130, and she complained much of her head, with a sense of heat in the stomach; here pressure gave pain. She preferred cold drinks. There was constipation all through. The attack lasted 24 days, and no spots of any kind appeared. At the height of the disease there was a great deal of tremor, especially of the extremities. The tongue changed to the healthy state very slowly. This case I saw with Dr. Boles.

CASE XXIX.—A gentleman, aged 33, residing four miles from the city, was attacked with fever of the gastric type. For the first three days there was considerable irritability of the stomach; there was also very distressing intermittent headache, and a complete loss of sleep. No spots appeared. All through there was constipation, and the urine had a large deposit of lithates in it. On ninth day there was a marked effort at crisis by sweat, but it did not end the attack, which went on to the 21st day, when sweat again appeared,

lasted off and on three days, and proved critical. In this case I had the assistance of my friend, Dr. Hudson.

CASE XXX.—Barlow, a woman of 55, admitted March, 1862, with fever of the gastric type; except running on more than 20 days it presented no peculiarity.

CASE XXXI.—Lacy, a woman of 45, admitted March, 1862, when 17 days ill of gastric fever. She was much sunk in the face, and the upper lip was broken out. The tongue was very red, hacked, and sore; and yet had little fur on it. No spots visible. All through there was constipation. Her recovery was very tedious.

CASE XXXII.—Fegan, a man of 30, admitted March, 1862; he seemed to have little wrong; and yet there was a something about him which at once caught my attention. Any complaint he made was referred to the stomach. He had a loud harsh cough; for which, however, I could make out no cause. The first day there was nothing of what could be called fever on him. The second, a marked change had occurred. His pulse was now full and bounding, though beating only 86: and he complained of having got no sleep, and of his throat being sore. On looking into it I found it was red; but there was no ulceration nor effusion of lymph. From this time forward—being now six days ill—fever slowly but steadily increased from day to day. The tongue, at first morbidly clean, became red and furred; the skin hotter; pulse quicker; nights worse; great distress, with marked prostration. There was also some discharge from the eyelids, and for the last two days of life very marked tympany. He died on 13th day. In this case no spots appeared, nor was there diarrhea; and the mind remained all but clear. The patient was of a full habit of body, and impressed me with the idea that, though fat, he was in bad condition. It must be left to others to give this case a name.

CASE XXXIII.—Mrs. W., pay patient, aged 30, admitted, April, 1862; being 10 days ill of fever. She was copiously spotted; eyes injected and suffused; and her tongue very dry and rough, but not much furred. There was no tympany, but the bowels had been and still were too free; being disturbed three or four times in the 24 hours—discharges darkish. In the progress of

this case the pulse became, in a very marked degree, irregular; but as the fever went off it regained its regularity. The diarrhea had to be specially treated.

CASE XXXIV.—Flanagan, a girl of 20, very fine skin, and rather fat, admitted, April, 1862. Her mother states she is now 10 days ill, and she presents all the signs of typhus fever. She is heavy and stupid; pulse rapid; lips and tongue covered with thick sordes; no spots. With these there is also sharp diarrhea, to the extent of six times in the 24 hours; discharges light coloured; slight tympany and pain on pressure. What between typhus and typhoid symptoms this case proved most obstinate, and called in turn, for treatment to both head and abdomen. It yielded, however, about the 27th day; there being then signs of crisis by sweat; but not very marked. As the tongue cleaned, it remained red and glazed. The girl made a good recovery.

CASE XXXV.—Crickard, girl of 22, of full habit, took ill on Friday, April 25th, with signs of fever of a very low type. She had to be carried into hospital. Even at this early stage, being but five days ill, the skin was mottled. Next day the appearance on the chest and abdomen was very peculiar. There were a number of blotches, like stains, visible, of a very irregular shape, a bright hue, and much larger than any of the ordinary spots of fever. With those the fever had become more marked, and she complained of sore throat, which, on inspection, showed only an increase of redness. A day later still, ordinary petechiæ had appeared, and from this forward went on increasing till they reached the utmost possible degree of intensity. It is enough to say, that after a fearful struggle, lasting several days, this girl recovered. The lungs getting engaged was the cause of the danger. Through entire illness the brain remained wonderfully free.

CASE XXXVI.—M'Cormick, a woman of 24, admitted, after being one week ill of fever of the gastric type. The tongue was furred and very red; skin hot; pulse 130; eyes suffused and injected; and head much complained of; no spots visible, nor did any appear subsequently. With this state there was considerable irritability of the bowels, and slight tympany; much more pain too than is usual was present, even without pressure. The symptoms

did not yield till specific treatment was adopted. The fever ran out 21 days.

CASE XXXVII.—Convey, sailor, aged 26, admitted May, 1862; ill of fever, but not known how long. He was densely spotted, and all the spots were of the character of petechiæ; some, however, being of a darker shade than others. His tongue was very red and dry, and skin hot. Very severe diarrhea was also present for the first 36 hours; after which it moderated, but did not cease. There was also slight tympany, with pain on pressure. As the eyes were much injected, and the brain engaged—the patient being heavy and stupid—the abdominal symptoms were not interfered with for three days. But as the diarrhea still continued to the extent of four times in the 24 hours, it was then thought advisable to treat it, and five days later it had all subsided. When in this state, and all appearance of danger had passed, the spots having quite disappeared, and pulse fallen, the patient was suddenly seized with violent delirium; getting out of bed and ultimately requiring restraint. For this he was treated with tartar emetic and opium, and with very striking benefit, and he then made a very good recovery.

CASE XXXVIII.—Bellew, servant, aged 45, of tall stature, thin, admitted, May, 1862, with all the signs of fever in a very severe form. He had to be supported into hospital, and though not a week ill, was already densely spotted, and his tongue dry and brown; eyes very much injected; expression heavy. There was also very severe diarrhea which seemed to cease suddenly within 48 hours; that is, about the eighth day of the fever. From this forward the attack was as genuine typhus as it is possible to describe. The spots became of the darkest; the mind very confused, with constant rambling; and passing under him. There was great difficulty in putting out the tongue, and, late in the illness, hiccup. By the 18th day the symptoms had materially improved. The spots were gone, the tongue had expanded somewhat, and was better put out, and he took support well. His mind too was much clearer. It was evident, however, the fever had not resolved itself. The pulse had not fallen in proportion, nor the tongue cleaned, and he still remained heavy, and at times would ramble. In this state he went on till 25th day of the fever, when he died. There was no effort at crisis at any time, nor any

tympany. I was only able to examine the abdomen. The ilium had no ulceration in it; but it was very red, in distinct patches, and the more so the nearer to the cecum. In this last organ the chief lesion was found; for it was ulcerated in patches; one as large as a shilling. The ascending colon had a number of small but distinct ulcers in it. The glands were not enlarged.

CASE XXXIX.—Mr. —, pay patient, aged —, came under my care the 10th day of fever of typhus type. He was densely spotted; had a flickering and most irregular pulse, and rolled his tongue in his mouth without putting it out. There was constant movement of the lower jaw, and marked cerebral breathing. Like the last case he had had very severe diarrhea within the first week of his illness; but it had now subsided; there was no tympany. This case went from bad to worse, and died the 13th day of the fever.

CASE XL.—Mr. —, aged 41, sent for me after being 18 days ill. He was a general medical practitioner, and during these days had worked on, as he best could, at his profession. His illness began the 1st of May, after having got a severe wetting: within a day or two of which diarrhea set in, and continued, off and on, till the time of my seeing him, in spite of the use of astringents which he had used freely. I found him in his parlour, and the immediate cause of his sending was, that he had had a rush of blood from the bowels, upwards of a pint. With this he presented the usual signs of fever of the typhoid type. By keeping him in bed and treatment, he seemed to get better; especially as far as the diarrhea and bleeding went; and so matters went on till the 28th day of his illness, when, at one o'clock in the morning, he was suddenly seized with severe pain in the abdomen, and lived only 13 hours after. No doubt of it, perforation had occurred. He had no vomiting.^a

Though the details of these cases may seem to have interrupted the line of argument pursued at the beginning of the paper, to myself they appear but a continuation of it. With two points of exception they may, I believe, be taken as a fair sketch of the types of fever prevailing in Dublin within the last two, and some

^a My friend, Dr. Moore, knowing I was engaged on the subject, kindly gave me charge of some of the cases detailed.

former years. These types were the typhus, typhoid, and gastric.^a Leaving out the latter for the present, the reader will have observed the striking contrasts which these cases present; we find cases of typhus in both young and old;—of typhus without spots;—of typhoid with none, with one or two, or with an extensive crop of them;—of typhus with the brain wonderfully free;—cases of typhoid, but more numerous, the same;—of both typhus and typhoid in which the state of the tongue and parts about were identical from sordes;—many cases of either type with the chest not engaged at all, or so slightly as not to call for treatment:—instances of both types with and without tympany;—cases of either kind entirely free from hemorrhage; a freedom remarkable when compared with former years;—and lastly, the modified types of fever which the present year has disclosed.

Now let it be observed that each and all of these have been dwelt on by those who argue for the plurality of poisons, and who would separate the two types as different fevers. But where, I would ask, is such a difference as would entitle them to be so considered? Not surely in those refinements of diagnosis on which so much labour has been bestowed, and by such a number of writers. When I go to the bedside and try to make them out I find them so mixed up that it is utterly impossible—at least, it appears so to me—to separate them. And the difficulties are equally great whether we endeavour to keep the symptoms separate, and so make out two distinct fevers; or whether we strive to keep in one group the type of fever known as typhoid. This last point, I think, has not received the attention it deserves. Let any one take some half dozen cases of this type and just observe the contrasts or modifications they present. This has been already done in the cases detailed; and I think they may be appealed to as ample evidence of the point for which I argue. Nor am I alone in this statement? “*Sometimes,*” says Louis, “*the diarrhea and meteorism were the most prominent; at times the depression of strength, delirium, spasmodic motions of all kinds; and according as one or the other was most prominent the disease had the appearance of putrid or ataxic fever; sometimes, likewise, that of inflammatory*

^a For some months past, I observe that in London fever has prevailed much above the average. In June, 1862, the deaths have been doubled; and in one week’s return of this month, out of 82 deaths, 39 are set down to typhus; 17 to typhoid, and the remainder to what is called “fever.” It would be very desirable that we had some more accurate account of this last class. The want of such throws great obscurity over the whole; for it must have been referred to some one type of fever.

fever; in some individuals there was no delirium, or it was very slight, and, notwithstanding the most grave lesions, the calmness continued until death. Notwithstanding these different aspects the affection was constantly the same; the principal disorder did not change." So much for Louis, who is speaking of typhoid fever.—Vol. II., pp. 8, 9. Here is another extract taken from a lecture by Dr. Gairdiner of Edinburgh, which appeared in the *Lancet* of July 21st, 1860. "*Nothing then can be more variable or less characteristic than the general symptoms of this (typhoid) fever. I have seen it resolve itself in ten days with the symptoms of febricula, or of a mild remittent fever; I have seen it, on the other hand, last nearly as many weeks, and pass imperceptibly into organic disease. It mimics, in turn, not only all other fevers, but many other general or local diseases; phthisis, pneumonia, meningitis, perhaps more frequently than most others.*" It will be remembered that those two writers are strenuous advocates for the essential difference between typhus and typhoid fevers. How they could make such admissions, and still hold such opinions, I leave to others to explain. Nor would there be any difficulty in giving other extracts of a similar kind. Thus, Louis' description of the state of the tongue in typhoid fever, might literally be taken as if he were speaking of typhus. It would be unnecessary to either add or detract from it. And so of other symptoms. The extracts given, however, are enough for my present purpose. They prove conclusively that fever of the typhoid type assumes many varied aspects. One says it may take on the putrid, ataxic, or inflammatory forms. The other the form of a febricula, or remittent fever; nay, even that it mimics such diseases as pneumonia, meningitis, &c. In most of these statements I can fully concur, because they entirely accord with my own experience; and would ask, with such admissions from the opposite party, what more is wanting to settle the point? or how will writers who have seen and described but one phase of fever of the typhoid type explain them, except they adopt the views of those who consider there is but one poison, which causes all the variations met with? I confess to seeing no other solution of the difficulty.^a

But some one will say here that I have not noticed those symp-

^a In connexion with this part of the subject, I would direct attention to the two chapters in Louis' Work; one on latent typhoid affection; that is, where the local lesion was not accompanied by the usual symptoms; and the other where, with all the common symptoms, the local lesion of the intestine was wanting.

toms which are considered specially characteristic of the typhoid affection, that is diarrhea, and the rose-coloured spots. This was purposely done; and with the object of speaking separately of the two points of exception which the fever of the last two years presented to my notice. The first of these was the very great prevalence of fever of the typhoid type. It exceeded anything I have seen in former years; as the cases detailed fully prove. And yet our city, during the same period, has been materially improved in its sewerage. Not that I have the slightest faith in bad sewerage causing typhoid more than typhus. But it looks strange that a type of fever, rare with us, should appear at a time when the specific cause of it, as many think, was being lessened. Yet such is the fact: no matter how we may explain it.

It is to the second point of exception, however, that I would more particularly ask attention, as bearing directly on the question under discussion. I mean the change of type which, within the last eight months, fever has shown in Dublin. The change at first seemed to be the gastric type; to which was shortly added diarrhea in nearly every instance; and this latter again occurring in a large number of cases which presented all the characters of typhus; including a dense crop of petechiæ.^a Some of these cases, it will be observed, have been detailed; and I know that others met with them in much greater numbers, and with exactly the same characters; that is well marked typhus with severe diarrhea. The case of the girl Flanagan, No. 34, is worth noting; she had neither the spots of typhus or typhoid, but she had every other symptom of the two types united; nor have I myself the slightest doubt but that Peyer's glands were affected.^b Did time permit, many others of the cases given would call for a special notice. But I must hasten on.

^a As bearing on this part of the subject, Huss's work is very specific; thus he says:—"It very often happens that epidemics, presenting at the beginning, or when at their height, all the characters peculiar to typhus, at the close have entirely assumed the form of typhoid, after the gradual development of several intermediate forms." Again:—"In many cases the symptoms appear simultaneously, so that the petechiæ and the lenticular spots may both be found copious at the same time."—"The conclusion," he adds, "I draw from this experience is, that the typhus and typhoid fever, such as they appear in the climate of the north, belong to one and the same pathological process; but that that which we call the typhus process presents several different varieties."—(See Introduction *passim*.)

Of 59 cases of typhoid fever given by Flint, rose-coloured spots were present in but 35; and in the analysis of cases of different years, they prevailed much more in some years than others. He says he can offer no explanation of this disparity.—(P. 181.)

^b One of the cases recently given by Dr. Warde (No. 3), and published in the *Medical Times and Gazette* for May, 24th, 1862, was exactly of the same character.

Of the morbid anatomy of those mixed cases of typhus and diarrhea, I regret that I got only one opportunity of making an examination; and it will have been noted that the lesion found was confined to the cecum and first part of the colon. It is specially to be observed, however, that it answered, in the most exact way, the description given by Louis of cases of typhoid fever, where there was also an affection of Peyer's glands. Nor must it be forgotten that Louis found the colon and cecum affected in a third of his cases; and, as it is admitted by all that the affection of Peyer's glands does not necessarily bear a relative proportion to the fever, it seems to me fair to conclude that the case given, No. 38, belonged to the typhoid type of fever; and so of cases 33, 37, and 39; all, it will be observed being well marked examples of typhus fever. If, however, my own experience be wanting, I am glad to be able to give that of my friend Dr. Gordon, who is attached to a large fever hospital, and who informs me that in the spring of the present year he met with ulceration of Peyer's glands in connexion with well marked cases of typhus fever; including a crop of genuine petechiæ. So that the fact may be looked on as absolutely established that the two types of fever existed in the same patient and at the same time; and in what might almost be called an epidemic form; so prevalent was it.^a Though this be the first time of the statement of such an occurrence in Great Britain or Ireland, it must not be forgotten that exactly the same has come under the notice of Huss, and is particularly dwelt on by him.

The conclusion, then, at which, after the fullest consideration of

There were no spots of any kind; whilst the symptoms generally were a mixture of typhus and typhoid; and on examination but one large patch of an ulcerated Peyer's gland was found, with an ulcer of the smallest size close to it. The same gentleman also states, that on one occasion a mother and child were admitted to hospital; the former had typhus and the latter typhoid fever. These are tell-tale cases.

An Argument advanced by Dr. Gairdiner of Edinburgh is, that because some four patients who had passed through enteric fever, were, within a few weeks, seized with typhus fever, therefore these must be distinct forms. I only wish he had seen our Dublin epidemic of 1847-48. He would then have witnessed, in numbers of cases, two, and sometimes three, distinct types of fever occurring in the same patient, and literally before they left their bed: and to account for such varieties by different poisons would clearly be a straining of any knowledge we possess of the poison of fever. When two types of fever followed each other directly, one would be very generally spotted, the other not.

^a Dr. Cronin, at present assistant in the Britain-street Hospital, informs me that in the spring of 1861, the same mixed kind of fever prevailed in the County Kilkenny; there being diarrhea, often very severe, present in almost every instance; with many cases, though not the majority, densely spotted at the same time.

this question, I have arrived is the same as that of two years since; but with still stronger convictions on the point. *I believe that the two fevers known as typhus and typhoid are the result of a single poison; and that no other hypothesis can explain so well all the difficulties of the case.* I consider, further, that those who hold for a plurality of poisons, are bound to explain the facts already given in this paper. They should tell us why the symptoms of those two affections so often run the one into the other; why the same type of fever, whether typhus or typhoid, presents such marked contrasts; why typhoid may assume the characters of putrid, ataxic, or inflammatory fevers; febricula, meningitis, &c., and still be typhoid all the time; and this, be it observed, is described by those who believe in the two distinct poisons. They will also have to answer the argument taken from analogy, and tell us if scarlatina affords the most marked contrasts, why fever should not do the same; also how it has happened that symptoms which one writer considers essential to the natural history of typhoid, are ignored or made little of by another. And, in the last place, an explanation must be given of what has occurred in Dublin this year—that is the union of typhus and typhoid in the same subject. Now one and all these points may be satisfactorily explained on the idea of the existence of but one poison. I confess, however, it appears to me impossible to explain them on the theory of two. But, if we admit two, why not more; for assuredly there are other types of fever just as distinct as typhus is from typhoid. And this leads me to notice the third type which prevailed this year in Dublin, and particularly amongst the middle ranks; I mean gastric fever. I hold that it is essential it should be distinguished from typhoid fever, with which it has the nearest connexion; were it for no other reason than that its treatment is very different. Several cases of it have been already detailed; but, except to notice it as a special type of fever, I am not about to speak of it further here. It was, I believe, to this type of fever that the cases given, which might fairly be called anomalous, are chiefly to be referred.

Before concluding I would make a few general remarks, of the most cursory kind, on the treatment of the typhoid type of fever; not that I have anything new to offer; but that the treatment adopted by some is not of the specific kind which this affection appears to me to require. We know that of late years anything of what would be called active treatment has been most materially modified, if not quite given up. Thus in Bartlett's work, which

appeared in 1847, the measures recommended included the regular antiphlogistic treatment; whilst five years later Flint speaks of much milder measures being adopted. The late Dr. Todd, of London, we know, strenuously recommended the stimulant plan; which, it must be allowed, he carried as far as any discretion would justify; and in a published lecture of the present year, Dr. Warde, of the Dreadnought Hospital, London, has advocated the leaving the disease very much to itself. Now I mention these plans, not to criticise them; but to state that each, in its turn, will be found useful; and that no physician who has fever to treat on the large scale, will bind himself to one or the other. Every single instance must be treated by itself, and symptoms must be met as they rise. If this be done, I believe the typhoid type to be the most amenable of the many forms of fevers, provided it be seen in an early stage of the disease. Speaking of it as I have generally seen it, I would say it is not a fever to be left to itself; and several of the cases which have been detailed prove this; for there was no amendment till treatment was put in force: on the contrary, some of them were going from bad to worse. When then the case calls for it, and this is to be learned from the local, as well as the general symptoms, I never hesitate to have leeches applied over the right iliac region, followed by a poultice; taking care the bites do not bleed too long. A more common plan, however, is the application of a blister to the same part; nor can I doubt the great value of such means, and believe it is not as generally used as it might be. The blister may be repeated with the best results; nor should we ever forget that the local disease with which we have to contend is very apt to be slow in yielding; that a relapse may readily occur, and when this happens the disease is rendered very much more grave than it was. Our object, in truth, is to prevent ulceration; for if this once occur the chances of recovery are materially lessened. I state this because a recent writer speaks of the disease as if ulceration must necessarily take place. I believe this is an erroneous way of considering the matter; and that we can, by treatment, anticipate, and so prevent it. "*Obsta principiis*" is all important here, and a principle never to be forgotten.

Of the internal treatment I have had no occasion to change from what was spoken of in the former paper. As an astringent I find the dilute sulphuric acid, in the proportion of one to three drachms to the eight ounce mixture, by much the best remedy. No other of the class of astringents seems to me to act at all so satisfactorily;

and it can be modified, with the greatest nicety, to the demands of each particular case. I have often seen medicines, such as chalk, gallic acid, lead and opium, unavailingly used; and then from the moment this acid was given the patient began to amend. But it is not to be used without discretion; for it may check the diarrhea too suddenly, and the chest or brain may so become engaged: hence, it is best to begin with a moderate dose, and increase if the necessity arise. The rule is that the diarrhea is to be gradually lessened; not suddenly stopped. In mild cases I find the acid infusion of roses a very suitable medicine; and, when there is pain, from two to six drops of laudanum, in each dose of the mixture, commonly answers well. The sulphuric acid, I need scarcely add, is the favourite remedy with Huss. When there are signs of irritation in the colon, and more especially when there is tenesmus, an anodyne enema acts like a charm.

Dr. Warde, to whom I have before alluded, speaks of salines as being suited to the treatment of fever of the typhoid type. Such may answer in London; but with us in Dublin they would be positively injurious. Their effects on the healthy frame are quite too powerful to suppose that they would not act equally so on the frame weakened by a disease like fever; of which the best treatment now avowedly is, what may be called, conservative. To the class of salines I would add the carbonate of ammonia, which I believe to be too indiscriminately used; and which, in my own experience, does not suit the type of fever of which I am speaking. I have known a very few doses of it bring on diarrhea; not only in this fever, but in many other diseases; and, if my memory serve me right, I have seen a similar remark made by Sir Benjamin Brodie; and would hence hold out a warning against the use of either salines or alkalies in all diseases of a lowering type.

There is a class of cases of the typhoid fever in which, without any interference, the diarrhea suddenly ceases; whilst the chest, or it may be the brain, gets as suddenly involved. All such I have found turn out most critical, and I have latterly been in the habit of keeping up, for some days, a discharge from a small blister, usually put on the chest. In this way I think I have seen very beneficial results follow. It seemed as if the poison were, in part at least, got rid of by the system; and all went smoothly afterwards. The point, I believe, is worth bearing in mind, and so is mentioned.

In the last place I would notice a point which was also spoken of

on a former occasion. Are stimulants, as a class, used too indiscriminately? I think they are. It seems a very general impression that if they are to be used, it matters little of what kind they are: hence, brandy, wine, and beef tea, are constantly spoken of as being given to the same patient. Now I do not deny that all may be required at the same time. But I do say that in numerous instances judgment is to be exercised; for most assuredly the effects are not the same; and when their different composition is considered this need not excite wonder. Thus, if we compare wine and beef tea, the former, contrary to what might at first be thought, may be given with much less risk than the latter; and I am sure I have seen cases where secondary inflammations—in the chest amongst other parts—have been lighted up by want of attention to the very point of which I speak. Though much more might be said on this subject, enough has been advanced for my present purpose.

In conclusion, I would observe, that the class of mixed cases, as they may be well called, require even more than the ordinary amount of attention. The fever becomes so heavy in many of them that the abdominal symptoms are very apt to be masked, and so may readily be overlooked. In such cases too, it may be requisite to direct our treatment at one time to the chest, or again, to the brain; and, in some of the cases given, a combined treatment had to be adopted.

ART. VIII.—*On Galvanism as a Therapeutic Agent.* By HARRY LOBB, M.R.C.S.E., &c., &c.

THANKS to the labours of the medical profession at home and abroad, galvanism, as a therapeutic agent, is at length taking its legitimate position in the science of medicine. Rescued from the ignorant and unscientific administrator, into whose hands it had almost entirely fallen, some of the most eminent men in the ranks of our profession have turned their attention to its study, and with the aid of the sister sciences, anatomy, physiology, and pathology, have elicited some most remarkable results. The late Dr. Golding Bird, a far-seeing and most intelligent physician, stated his belief that it was to galvanism the profession must look for some of its future triumphs. This opinion has been fully endorsed by a large

number of observers; the list of names of those who recommend and employ galvanism in the treatment of disease would be so great as to require far more space than I can afford for such a purpose; still, I cannot pass over in silence the name of one who has done more than any man in this country to obtain for galvanism the recognition of the profession and the public as a therapeutic agent of great value in many forms of disease. I speak of Sir Charles Locock, to whom I am myself indebted for much kindly support and aid in the prosecution of my investigations; and who, from his eminent position in the profession, and his well-known integrity, is enabled, by the weight of his great name, at once to stifle the clamour, usually arising against the employment of any novel method of treatment however valuable it may eventually prove to be.

Galvanism, as a therapeutic agent, has passed safely through this primary stage of neglect, and is now being earnestly studied by numerous observers of first-rate ability; and the profession are naturally desirous to become acquainted with the results of the practice of those who have devoted their time and attention to the subject. The following cases I have selected from the practice of a public institution, established recently in London, for the purpose of testing, in a larger field than can be obtained in private, the real value of galvanism in the treatment of disease; and I shall endeavour to explain the practical working of the apparatus in each case, as by this means those who are ignorant of the subject can more readily carry out the treatment should they desire to test its value; and I may at once state that the observations made by Dr. Golding Bird in the electrical ward he established in Guy's Hospital under his own special supervision, since followed out by Dr. Gull, namely, that rheumatic paralysis yielded most readily and in a remarkable manner to the electrical stimulus, has been most fully borne out in my own practice.

To commence, then, with a case of muscular rheumatic paralysis, limited to the fore arm, and recently induced.

No. 61.—George Jones, aged 63, surgeon, 14, Polygon-street, St. Pancras, rheumatic paralysis of the left lower arm, with fixed claw-like contraction of the fingers, of 10 days' duration, brought on by exposure to cold and wet; the skin of the arm was peculiarly dry and scaly, and the muscles, both flexors and extensors, hard and contracted.

In rheumatic paralysis the custom is always first to excite the skin with a sharp current, using a dry flat metallic conductor; the

positive pole of a 120 element galvanic battery is applied, by means of a wet sponge, upon the skin at the bend of the arm, and the operator, taking the flat metallic conductor, attached to the negative pole of the battery, in his hand, applies it sharply over the skin of the arm, front and back, for five minutes, producing redness of the surface, with sharp stinging pain; upon retaining the conductor upon the belly of a muscle, for a few seconds, trembling and twitching in the muscle shortly commences; this shows that the paralysis will rapidly yield; this was done over all the principal muscles for a few seconds each; the conductor was then changed to a moist one, and each muscle was stimulated to contraction. The whole operation took 12 minutes, at the end of which time the patient could open and close the hand freely, without any pain. On attending two days afterwards, he had had no relapse, and was discharged cured.

No. 58.—Henry Hall, aged 45, Duke-street, Portland-place, two months previously had been laid up with rheumatic fever, leaving behind rheumatic paralysis of the deltoid, and muscles of the shoulder of the left arm; for this he was recommended by Mr. Kelly, surgeon, of Fetter-lane, to attend the hospital. The treatment was the same as in the last case; and after two operations of a quarter of an hour each, he was discharged cured.

No. 38.—William Pratt, aged 54, bookbinder, 5, Buckingham-street, Pimlico, rheumatic paralysis of the right leg; great stiffness in walking, so that the leg dragged, the foot being fixed. Two winters ago he had stood constantly in a draught of cold air at work, and this had gradually induced paralysis of the limb with coldness and numbness; he had been in this state for 20 months; he had been treated by Dr. Griffiths, of the Belgrave-road, who had succeeded, in a great measure, in removing the numbness, but not the paralysis, he therefore recommended Pratt to attend the hospital. The treatment was the same as in the former cases. After the first operation the foot felt warm and comfortable, and loosened; and after six operations the paralysis was quite cured.

These three cases will be sufficient to prove the immense power galvanism, where scientifically applied, has in curing rheumatic paralysis. As far as my experience goes, I have never yet met with a case which has not completely and rapidly yielded to galvanism; the current restores the circulation in the part, causing warmth and redness where previously there had been palor and cold; the muscles, also, which were stiff and hard after contraction,

become soft and elastic to the touch. I could relate many more cases, some of long standing; but, as the treatment is the same in all, it is useless to multiply examples, especially as I am desirous only to refer to those treated at a public institution. The following cases are uncommon, but from their extreme interest are well worthy of mention. They contrast with the previous ones in the time required to effect a cure.

No. 20.—Catherine Lee, aged two years, 6, Great Crown-street, St. James', four months previously, whilst teething, lost, during the night, the entire use of the right upper arm, followed by gradual and complete wasting of the deltoid, biceps, and triceps; the arm hung by the side powerless; there was no wasting of the muscles of the lower arm, and their movements were but little less active than those of the left arm; the head of the humerus, by the loss of the tonicity of the deltoid, had fallen away from the scapula, leaving an indentation in which the finger might be laid; the tissues around the humerus had so wasted that there was little besides the skin to cover it. Upon applying the interrupted current of galvanism there was not the faintest contraction, there being no muscle to contract. This was a serious state of things, but having had cases previously that had done well, I did not despair. The treatment consisted in the application of a galvanic chain from the spine, winding round the atrophied muscles to the bend of the arm; the positive pole upon the spine, the negative on the arm; this increases the circulation in the part, and tends to stimulate nutrition. Thrice weekly the child (a remarkably healthy well-grown one) attended to have an interrupted galvanic current applied to the arm to stimulate to contraction any muscular fibres there might be remaining, to increase nutrition, and to take advantage of any fibres generated by the chain. Some weeks elapsed before any change was observed, when it was considered that the head of the humerus was not quite so far from the socket, and that the arm was filling out; there was, however, no muscular contraction. At the end of two months there were some faint contractions in the triceps, and the arm was much fuller and firmer; the improvement was slow, but steady; and at the present time, nine months after the first operation, complete muscular contractility, under the galvanic stimulus, has been recovered in all the muscles; voluntary power in the triceps and biceps has returned, but as yet there is no voluntary power of contraction in the deltoid.

I have little doubt but that the child will entirely recover the

use of the arm; the probable time is from two to three months; if so, the case may be well considered a triumph to the science of medicine, or rather medical galvanism.

No. 32.—Master Richard Bennett, aged six years and a-half, 8, Gloucester-crescent, Regent's-park, suffered, some three years ago, from low fever, followed by partial atrophy and paralysis of the left leg. From the knee to the heel the leg is nearly an inch shorter than the right, the gastrocnemius has entirely disappeared, and under galvanism there is not the least contraction in it. There is a great hollow above the heel and flaccidity of the tendo-Achillis; the foot is mis-shaped and atrophied; the muscles in front of the leg have shrunk, and do not actively contract under galvanism—probably from want of use, as he has worn an orthopedic instrument which has enabled him to walk, but has, at the same time, weakened those muscles which were healthy, so that he walks entirely from the upper leg; the thigh is smaller than the opposite one, but is not atrophied. This case somewhat resembles the last, although the atrophy does not affect so many muscles, and there is, consequently, less paralysis. The walk is clumsy, and he has not the slightest power of rising on the toes; still he can walk after a fashion.

Treatment.—A galvanic chain from the spine to the foot, to increase circulation; the debilitated muscles stimulated, by the interrupted galvanic current, to contraction, so as to give them tone, that the orthopedic apparatus may be discontinued; this was done, and the machine was dispensed with after a month's treatment. He could, at the end of that time, walk much better, the debilitated muscles were much stronger, the foot more shapely, the thigh fuller and firmer, and he was altogether much improved. Now was the time to commence with the gastrocnemius, and I find that when the atrophy is extreme, the continuous galvanic current is the most useful, with a wet positive pole; and, if the patient can bear it, a dry negative metal conductor over the atrophied muscles, if not, a wet one. After several applications, a trembling was observed beneath the skin: this was the first faint contraction of the returning muscular fibres. This gradually increased in force until the tendon was affected by it, and the heel drawn up. This, however, took time, and at the present moment, five months after the commencement of the treatment, much remains to be done. I have no doubt, however, of eventual and complete recovery. The case, except under treatment by galvanism, would terminate in confirmed atrophy and paralysis; the leg, from the knee downwards, would cease

to increase in the same ratio as the other, and, upon his arriving at man's estate, the left leg would be probably three or four inches shorter than the right. These cases of paralysis and atrophy, occurring during teething, and as a sequela of fever, although rare, are far more common than are generally supposed. Since having turned my attention to the treatment of paralysis, I have met with a large number, and, although taking a considerable time to cure, still my experience leads me to affirm, that they are decidedly curable, and that if the patient will only give the time and attention, galvanism will do all that is necessary.

The next group are the neuralgiæ, generally yielding very rapidly to the continuous galvanic current. Of these there have been many examples, but I shall pass them all over with one exception, as it is remarkably instructive :—

No. 10.—Ann Wilson, aged 50, 11, Caledonia Terrace, King's Cross, has suffered with pain along the course of the sciatic nerve, for the last twelve months, sometimes bad enough to cause great difficulty in walking. The pain is chiefly in the hip and about the foot, and is sometimes very acute; she is never entirely free from it; otherwise she is quite well. I recommended her to wear a galvanic chain (direct current), and to have the skin over the painful parts stimulated with the dry conductor (direct current). This gave but very slight and evanescent relief, but was persisted with for some weeks. I then thought of trying the inverse current, seldom, although occasionally, beneficial in neuralgia; the poles of the chain were changed, also the battery current. This gave immediate relief, and after five applications she was quite cured, and has had no return since, now more than two months. I have noticed now in many cases, that in all uterine affections, where that organ or any of its appendages are primarily affected, that the inverse current is the one required and not the direct, which is seldom of any advantage. I therefore conclude that this case of sciatica was the result of some uterine affection, as the arrest of the menses, or ovarian congestion. I have already recorded, in the *Lancet*, a case of most severe neuralgia of the face, cured by the continuous galvanic current, inducing the menstrual flux, which had ceased for some time.

And now we must enter upon the more severe forms of paralysis, of which we have had some very bad cases—many that have been under every form of treatment; in fact the majority of cases attend the Hospital as a last resource, and the more easily curable affections

do not come at all, so that the patients are a long time under treatment.

No. 42.—James Mallison, aged 53, 7, James-street, Blackfriars Road, is a blacksmith, has been gradually losing the use of his hands, and upon application had entirely done so. The hands are dropped, with complete paralysis of the extensors, which are completely atrophied on the right side, and almost completely on the left. There is not the faintest contraction under the highest power of the galvanic current; the hands and arms are thin, and of a purple colour. There can be little doubt that the paralysis is the result of poisoning by lead, as he had previously suffered from colic. There is, however, no history of any introduction of lead into the system. The gums are in a very bad state, also the teeth; complexion blue and pallid.

Treatment.—To wear a galvanic chain round the arms, from the elbow to the wrist (direct current). Three times a week to have a powerful continuous current passed through the arms, a dry metallic conductor attached to the negative pole, passing over the skin covering the atrophied muscles. By degrees faint contractions might be discovered under the skin, more particularly in the left arm, and the arms began to increase in size. At the present time, three months after commencing the treatment, he has quite recovered the use of his hands, and has returned to his work.

Of the number of cases applying for relief at the Hospital, there have been very few refused as being unadapted for treatment by galvanism, but there have been many that have yielded but slowly; of these, I select the following as being the one that has taken the most time with the least result:—

No. 12.—Henry Stanard, aged 48, Sherborne-street, Islington, hemiplegia, three years' duration. The paralysis came on gradually, with a series of fits, not of a very severe nature, and only partial loss of consciousness; his memory is a good deal affected, and his speech is a little thick; he has what he calls his attacks, even now occasionally; he describes them as a giddy feeling, lasting but a short time, but incapacitating him from any motion or use of the will during the time. I have never seen him in one. On applying to the hospital last July, there was stiffness in the leg, with some ability of walking. The arm, the right, was, however, entirely powerless, with contraction of the pectorales, biceps, and flexors of the hand, so that the arm could not be straightened, or the hand opened, even by using great force; he had no power in it at all.

The treatment commenced with the use of the direct continuous current to the paralyzed muscles. At that time I was not practically aware of the power of the inverse current to remove the contraction of muscles, the result of disease within the brain, the treatment with the direct continuous current was persevered in for six months, with benefit, sufficient to satisfy the patient he was deriving advantage—but not of a very marked nature—during this time I had discovered the virtue of the inverse current in overcoming muscular contractions—consequently in February I applied the inverse continuous current to Stanard—by placing the wet conductor, attached to the positive pole, upon the bellies of the contracted muscles, the wet conductor of the negative pole over the left temple, and in twenty minutes the arm became perfectly flaccid, the previously contracted muscles quite soft, the hand could now be opened without any resistance; he had, as yet, no voluntary power in the arm to extend it, or open the hand. On each visit there was less contraction, and now, after being galvanized, he can stretch out the arm fully, and can open the hand. I look upon the use of the inverse continuous galvanic current as giving to therapeutics a vast power hitherto unthought of, and likely to be almost as useful as the direct continuous galvanic current, the one now more generally applied. To the physiologist these facts cannot but be of the greatest interest. I believe that the wonderful difference in the effect of the direct and inverse galvanic current has not at all been recognised by authors, and as it is of the greatest interest to the physiologist as well as the physician, I should be only too glad if these remarks should excite in some inquiring mind a desire to become better acquainted with it; should this be the case I shall be most glad to demonstrate to any inquirer, who may wish it, the experiments I have instituted for the purpose.

Now is the right time for investigators to enter upon the study of galvanism as a therapeutic agent, as most of the real difficulties that had impeded the path of progress have been swept away by the unremitting labours of those who have gone before. The apparatus is now compact, portable, cleanly, easily excited and applied. Electro-physiology has been ardently studied by Matteucci, Dubois Reymond, and Radcliffe. Electro-therapeutics, by Remak, Becquerel, Duchenne, and numerous others, so that the field, although not entirely fallow, is by no means occupied, and is ready to yield a rich harvest to the ardent and faithful student.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Clinical Treatise on Diseases of the Liver. By DR. FRIED. THEOD. FRERICHS, Professor of Clinical Medicine in the University of Berlin, &c. Translated for the New Sydenham Society, by CHAS. MURCHISON, M.D. Vol. II. pp. 584. London: 1861.

WE gave an extended notice of this work, when the first volume was issued by the New Sydenham Society, and expressed our sense of the great value of the author's researches. The completion of the treatise, simultaneously with its publication in Germany, has placed in the hands of physicians a monograph which must, for some time to come, occupy an important place in the library of the pathological student. It is replete with learning and exact clinical observation. Every disease is illustrated by cases, drawn up in the most admirable manner, while the methodical distribution of the whole subject renders the perusal of the book an agreeable labour.

The first chapter is occupied with the discussion of inflammation, its various forms and consequences. Cirrhosis is here treated of under the division, "Diffuse Hepatitis of the Chronic Interstitial Form." It is insisted that there is an alveolar matrix of amorphous connective substance throughout the liver, in the meshes of which lie the hepatic cells, whilst the capillaries are dispersed throughout the walls. Much doubt has been recently thrown upon the existence of this frame-work, and upon this particular relation of the cells to such a tissue. The real nature of cirrhosis has been so closely bound up by most authors with the supposed areolar frame-work, that it is unfortunate for the clear elucidation of its pathology, that the general anatomy of the organ is still *sub judice*. The matrix, according to our author, may become hypertrophied, and

the further this hypertrophy proceeds, the more is the consistence of the organ increased. Such increased consistence constitutes the initial stage of cirrhotic degeneration. In the advanced form of the disease, the organ is reduced in size, and particularly the left lobe; semi-globular knobs, more or less prominent, sometimes of a uniform, and, at other times, of an unequal size and form, are thickly scattered over the surface. The serous envelope is almost always thickened and coriaceous, and of a greyish white colour, especially in the depressions between the granulations. On section the organ presents a cartilaginous hardness and coriaceous tenacity, and we observe at one place, narrow, and, at another, broad lines of connective tissue, of a grey colour, surrounding the granulations, and sending streak-like processes into their interior. These granulations are, in most cases, dark or pale yellow, rarely greenish, brown, or reddish. In this stage the hepatic cells are in great part destroyed, their remains constituting the small masses of brownish pigment scattered among the filaments of connective tissue. Another portion of them *constitutes the substance of the granulations*, and may remain for a long period intact. The cells may become filled with fat, pigment of various sorts (hence the name "cirrhosis"), or with lardaceous matter. When this latter variety exists, the liver, even in an advanced stage of degeneration, exceeds its natural size. The gradual increase of the bands of connective tissue causes the compression and destruction of the glandular elements. In proportion to the destruction of the glandular substance the capillaries of the portal system become obliterated, while the trunk and larger branches occasionally become enlarged; new channels between the hepatic and portal veins become developed, though insufficient for the transmission of the blood. The hepatic artery becomes enlarged, and its capillary network is more extensive than in the healthy state. The capillaries of the hepatic veins, on the other hand, are gradually destroyed. The newly-formed connective tissue exercises a destructive influence on the origin of the bile ducts at the periphery of the lobules. Frerichs shows how the granulations of cirrhosis differ from those produced by the fatty degeneration, by hyperemia due to cardiac disease, by adhesive inflammation of the portal veins, &c.; and, finally refers the disease to a chronic interstitial hepatitis. The author alludes to the case, reported by F. Weber, of a child born dead, in whom the destructive marks of hepatic cirrhosis existed. How such a malady arose during intra-uterine life, may well be termed a pathological puzzle, and

demonstrates that imbibition of alcohol is not a necessary antecedent to this change.

In the clinical history of cirrhosis, the author lays great stress on the functional derangements which spring from the granular induration, as the local examination of the hepatic region rarely furnishes adequate data for a diagnosis. In a clinical sense, the disease may be termed an "obstructio hepatis," as it was regarded by the ancients. Among the collateral channels for conveying the blood direct to the heart, without passing through the liver, Frerichs alludes to the "accessory branches of the portal vein, described M. Sappey, which exist on the under surface of the diaphragm, and upon the inner surface of the epigastric portion of the abdominal wall, and which pass to the liver between the folds of the falciform ligament."

The enlargement of these vessels is stated to be of the utmost importance in cirrhotic degeneration. In two cases Sappey found the vein which accompanies the ligamentum teres distended to the size of the little finger. Hemorrhoidal varices were not observed by the author to be frequent, contrary to the notion prevalent in this country.

Out of 36 cases, the spleen was enlarged in 18 only; while ascites occurred in 24, or in exactly two-thirds. The stomach was in a state of catarrhal tumefaction in 26 of the cases; hemorrhagic erosions and cicatrices in six.

In reference to diagnosis, the author judiciously remarks, that "in practice it is by no means always an easy matter to diagnose cirrhosis of the liver with certainty; especially when, as is usually the case, we have only an opportunity of observing the disease at one stage of its progress. The facts upon which our diagnosis must rest, are the following:—Persistent derangement of the digestion, with no obvious organic disease of the stomach, ascites, tumefaction of the spleen, diminution of the liver, increasing paleness of the feces, cachexia." The greatest difficulty lies in the discrimination from obstruction of the vessels, as in pylophlebitis, inflammation of the hepatic veins; but, in these cases, as the author remarks,—the development of the symptoms of obstruction is usually more rapid than in cirrhosis

The treatment of the early stage of cirrhosis resolves itself into mercurial inunction, warm cataplasms to the right hypochondrium, and leeches to the hepatic region and anus. Internally, tamarinds and triticum repens are recommended, and certain mineral springs.

At a later stage, bitter infusions and extracts are advised; and the choleate of soda, dissolved in infusion of rhubarb, is said to operate well in regulating the intestinal digestion. Should the advent of acholia be indicated by the supervention of severe nervous symptoms, "all that remains to be done is to render death as easy as possible."

Abscess is treated of, in the next section, under the head of "Circumscribed Inflammation of the Liver." No portion of the book betrays so little research, either literary or clinical, as this chapter. It is obvious that the author's own experience of the disease has been very scanty—like that of most other practitioners in temperate climates. He declares that he is "far from participating in the opinion of Budd, according to whom, almost all cases of hepatic abscess, which are not due to external violence, may be referred to purulent infection of the roots of the portal vein, resulting from ulceration of the mucous membrane of the stomach, intestines, or bile-ducts." We are convinced that the able English physician took too restricted a view of the relation between hepatic abscess and disorder of the mucous membrane; and the acute arguments of Frerichs altogether concur with the deductions suggested by our own experience on this point.

There is a very good historical account of "hepatitis syphilitica" in the next section, and the anatomical details seem to us very satisfactory. No further scepticism should exist in the minds of pathologists, upon the relationship of syphilis, to certain peculiar conditions of the liver, allied, for the most part, to those lesions which occur in the tertiary stage of the disorder. The following is the author's anatomical description of syphilitic hepatitis:—

"The syphilitic process in the liver manifests itself in three different forms. 1. As simple interstitial hepatitis and perihepatitis; 2, as hepatitis gummosa; and 3, as waxy, amyloid or lardaceous degeneration of the liver. All three forms may be found in the same liver or may exist independently. The last of the forms, which is also produced by other cachectic conditions of the system, will be considered separately hereafter; at present we shall merely refer to the two inflammatory forms in the bodies of individuals who have suffered from constitutional syphilis, when depressions, like cicatrices, of a folded or radiated form, are often found upon the outer surface of the liver, the capsule of which is smooth or granular, and is usually thickened and firmly adherent to the neighbouring organs, more particularly to the diaphragm, and in rarer instances, to the colon and stomach. These depressions are of most

frequent occurrence on the convex, but are also met with on the concave surface; they are sometimes solitary, and at other times so numerous as to make the liver present an irregularly lobulated form; they are rarely observed in the substance of the hepatic tissue without reaching the external surface. On closer examination, they are found to consist of fibrous tissue, extending from the thickened capsule more or less deeply into the interior of the gland, the secreting tissue of which is atrophied. In the second form of hepatitis syphilitica (hepatitis gummosa) the tissue of the cicatrices just described is seen to contain whitish or yellowish nodules of a rounded form and dried appearance, which usually vary in size from a linseed to a bean, but may be as large as a walnut."

There are still other forms of syphilitic hepatitis, where the development of areolar tissue is widely extended, and gives rise to simple or granular induration. These are classed by the author as cases of syphilitic cirrhosis. The symptoms of the syphilitic forms of hepatitis are by no means striking; pain is frequently absent—and jaundice very rarely makes its appearance—on the whole, however interesting pathologically, the clinical value of the diagnosis of this phase of syphilis is insignificant. We are, indeed, only justified in assuming its presence when other manifest indications of syphilis exist.

The chapters on the "Lardaceous Liver," "Hydatids," and "Cancer," will well reward attentive perusal. They are followed by a highly important section on diseases of the blood-vessels of the liver. We pass over the division on the hepatic artery and veins, and wish to draw specially the notice of our readers to that which refers to the vena porta.

Coagula of blood in the portal vein, and inflammation of an adhesive character of its coats, are attended with the most serious results. Infarctions of this vein have long been familiar to physicians, but various theories have existed as to their precise etiology. "Modern observations have determined that the majority of blood-coagula in the portal vein occur independently of any inflammation of the venous wall; that the wall of the vessel frequently becomes inflamed secondarily; and that inflammation of the vein constitutes the starting point of the morbid process in a comparatively small number of cases." Coagula of blood are developed in the portal vein from weakened force of the circulation, as in marasmus—from a local disturbance of the circulation of the blood, resulting from those diseases of liver that induce destruction of numerous capillaries, or constriction of the branches of the portal vein—or from

compression of the vessel below the liver by contractile connective tissue. The process of obstruction is not usually indicated by local symptoms. Inflammation of the venous wall is rarely so acute as to produce pain. The author gives the following as the clinical history of the disease in most cases:—

“After a long continuance of the symptoms characteristic of those affections which lead to diseases of the portal vein, such as cirrhosis, chronic atrophy, cancer of the liver, chronic peritonitis, and cancer of the stomach, or of the other abdominal organs, the signs of extensive obstruction in the region of the body, in which the roots of the portal vein take their origin, suddenly make their appearance; ascites is developed, which, in a few days, attains an extraordinary amount, and which immediately returns after the performance of paracentesis; the superficial veins of the abdominal parietes enlarge and extend in the form of thick cords from the abdomen, over the lower part of the thorax, towards the axillæ; at the same time the spleen increases in size; diarrhea supervenes of a watery, or often likewise of a bloody character, and not unfrequently it is accompanied by vomiting; the urine becomes unusually scanty and dense; the patients decline rapidly and present a pale cachectic appearance; the feet become œdematous, &c.

Ascites occurs still more frequently in thrombosis of the portal vein than in cirrhosis. Out of 28 cases analyzed by Frerichs it was absent in three only. Both enlargement of the spleen and ascites were absent in a man observed by him; but here there was profuse hemorrhage from the stomach and bowels, which, doubtless, compensated for the usual serous transudation. In this case there was complete occlusion of the trunk and branches of the portal vein. The prognosis of thrombosis is, of course, fatal.

Not less formidable is the other form of inflammation of the vein, attended with suppuration, and described by the author under the head “*Pylophlebitis suppurativa*.” Here the coats of the vein become altered, and the thrombus in its interior undergoes destruction at an early period. It is almost invariably a consecutive lesion, resulting from suppurative processes in the organs in which the roots of the portal vein originate, or through which the vessel takes its course. The treatment of such cases resolves itself into what Bree calls, “a melancholy contemplation of the approach of death.”

The whole treatise is of the highest merit, and ought to be placed on the library shelves of every one who desires to be on the level of current pathology.

Handbuch der Lehre von den Knochenbrüchen. Von DR. E. GURLT, Privat Docenten der Chirurgie an der Königlichen Universität zu Berlin. Erster oder allgemeiner Theil ; mit zahlreichen in den Text eingedruckten Holzschnitten, fast ohne ausnahme nach original—Zeichnungen des verfassers. Berlin: Hirsch. 1862. pp. 800.

Treatise on Fractures. By DR. E. GURLT, Lecturer on Surgery in the Royal University of Berlin. First part, with numerous woodcuts, almost without exception from original drawings made by the author. Hirsch, publisher. Berlin : 1862. 800 pages.

THIS work, the first part of which only is before us, in the 800 pages which constitute the present volume, will, when completed, form one of those voluminous compilations which give evidence of that extraordinary toil, labour, and care in accumulating all that is known on the subject, for which the Germans are so justly celebrated in all departments of literature. In this, the first part of his *Treatise*, Dr. Gurlt confines himself to general considerations as regards fractures ; and, in collecting materials for his work, he appears to have spared no pains. Not only has he thoroughly investigated the literature of the subject, but he has literally ransacked the museums of Germany and the British Islands, and, by personal inspection of the preparations, thoroughly qualified himself to accomplish the task he has undertaken. The value of the book is greatly enhanced by the very numerous woodcuts, executed, almost without exception, from drawings taken by the author himself from preparations in the many museums which he has visited. Very many of the pathological treasures of the museums of Berlin, Breslau, Halle, Jena, Marburg, Giessen, Würzburg, Brunswick, Frankfort, Dresden and Erlangen are thus, practically speaking, brought before the eye of the reader ; while in our own country, the museums of the Royal College of Surgeons of England, of Bartholomew's Hospital, of Guy's Hospital, of the College of Surgeons of Edinburgh, of the University of Edinburgh, of the Royal College of Surgeons of Ireland, and of the Richmond Hospital, have been in a similar manner pressed into the service.

The work opens with a bibliographical record of the works hitherto published on the subject of fractures in general ; then follows a chapter in which the general statistics of fracture, as

regards the relative frequency of its occurrence in different bones; the relations of fractures to sex, age, season, &c., are fully discussed. The author, however, enters at much greater length on the consideration of the next topic, viz., the general classification of fractures; and, in dealing with this subject, he seems to be carried into some of those refinements of classification which, we fancy, will hardly be appreciated by the practical cast of mind of the majority of British readers. Fractures are arranged by Dr. Gurlt under ten distinct heads: 1st. Partial or incomplete fracture (infracion or fissure of bone). 2nd. Splintering of a small fragment (*fracture esquilleuse* or *par arrachement* of French writers). 3rd. Transverse fracture. 4th. Oblique fracture. 5th. Longitudinal fracture, in which the bone is cleft or split. 6th. Multiple fracture, in which the bone is broken in more places than one, or where the fragments are tolerably large. 7th. Comminuted fracture, in which the bone is smashed into many small fragments. 8th. Complicated fracture (*complicirte Knochenbruch*), under which the author includes the two classes of fractures (in our opinion very aptly considered as distinct by British surgeons), viz., compound and complicated fracture. 9th. Divers fractures, occurring at the same time, in various bones of the skeleton. 10th. Separation by fracture, through the line of the epiphysis.

There does not appear to us any sufficient reason, at least so far as practice is concerned, to set multiple fractures and comminuted fractures each in a distinct category; while still, viewing the subject in a practical light, there are the best grounds for separating the compound fracture of British authors (*i. e.* that variety accompanied with external wound), from that ordinarily known as complicated fracture, in which arteries, nerves, &c., may be wounded, or with which disease or dislocation co-exists.

The author, in speaking of each form of fracture according to the classification just stated, does so with system and clearness, and succeeds in placing before his reader an account at least of the greater part, if not all, that is known on the subject; each form, in fact, is treated of almost as if it were a distinct essay or an article in a cyclopedia. Thus, to give an example, the author proceeds in speaking of partial fracture :

“*Incomplete Fracture.*—As an incomplete fracture, that kind only is meant in which the continuity of the bone is in part destroyed, while those in which there is complete solution of continuity will be placed among complete fractures. According to this definition, I do not (as

would occur under the nomenclature of Malgaigne, '*fracture esquilleuse*') place in this category the splintering off of small portions of bone, from which the solidity of the shaft receives no injury: these I consider as belonging to the group of complete fractures, and, under certain circumstances, to bone wounds. To the latter class I also regard as belonging, perforations of bones, which were placed by Malgaigne among incomplete fractures. There remain, therefore, but two forms of incomplete fractures which are anatomically distinct from one another:—1. Partial fracture, or *infractio*; 2. *Fissure*, which in the following section shall be considered at sufficient length to have done with it once for all.

"A.—*Partial Fracture, Infractio (Einknickung)*.—Fractura incompleta s. imperfecta, infractio.—Fracture incomplète; courbure, flexion accidentelle, traumatique; incurvation instantanée;—Partial incomplete fracture; curvature without fracture; bent bone.

"Thore. mem.: sur la courbure accidentelle et la Fracture incomplète des os longs chez les enfants, in Archives générales de med: 1844 and 1852.—P. A. A. Salmon, in La Clinique des Hopitaux des Enfants, 1843 and 1844.—Des solutions de continuité traumatiques des os dans le jeune age. Thèse de Paris, 1845."

"Infractio is those breaches of continuity in a bone which engage only a part of its thickness, and are generally accompanied with bending or crushing of the bone at the seat of fracture. From many allusions in their writing it is clear that infractio was not unknown to the surgeons of the ancients and those of the middle ages, at least, as taking place in particular bones—as the ribs, the cranium, the forearm, and leg, in young individuals: yet their existence was totally denied by some more modern surgeons (Boyer for example), until in more recent times such was unequivocally proved to be the case by anatomical research. More precise historical details may be seen in Thore's first memoir.

"*Anatomically* infractio of the long bones of the extremities can indeed be discriminated from the mere traumatic or accidental bending, the occurrence of which is proved beyond doubt by the experiments on the dead subject, afterwards to be alluded to; but, *clinically*, such a disunion is not possible, &c."

Then follows a disquisition, too long for our space to admit of its insertion, on partial fractures of the long bones in children; the experiments made on this subject, both on the dead subject and on animals, by Thore, Malgaigne, Salmon, Haller, Meding, and Dr. Gurlt, himself, are briefly cited; the etiology, diagnosis, prognosis, and treatment are discussed; cases of partial fracture are quoted; (among others, those published in the volume of this journal for 1832, by Dr. John Hart, do not, we are happy to

observe, escape the notice of the indefatigable author). A second section is given to the partial fractures of the long bones of adults; here the author does not make it quite clear whether he wishes to regard fractures, in which one fragment is forcibly driven into the other (impacted fracture), as one form of partial fracture occurring in adults. He alludes, it is true, in a note, to the remarkable case of Alicia Sherlock, published by Mr. Adams in the 6th volume of this journal, page 205, as one of a *united* extra capsular fracture of the neck of the femur, with wedging in (*Einkeilung*) of the neck; although immediately after he states that Professor R. W. Smith had, by boiling this preparation for a couple of hours, resolved it into three distinct portions—the shaft, the cervix, and the trochanter.

A third section, on fissure of bone, concludes the author's remarks on partial fracture.

Cases of this variety of partial fracture are also collected, of which, perhaps, the most remarkable is that of which a dissection was made by R. Frorick, and in which the humerus of a boy was cleft, from the greater tuberosity right down the middle of the shaft to within a couple of inches of the lower extremity, yet without complete separation of any fragment, or any solution of continuity across the shaft.

We give the foregoing sketch of Dr. Gurlt's observations on partial fracture, as a specimen of the method he has adopted in framing his whole work; each topic is discussed somewhat after this fashion, and with a degree of fulness which is indeed conclusive evidence as to the learning and amazing industry of the author.

In his fourth, fifth, sixth, and seventh chapters, Dr. Gurlt deals with the general symptoms and diagnosis, etiology, progress of the process of healing, and the prognosis of fractures in general. In these chapters he adds but little to what is, for the most part, tolerably familiarly known on the subject. It is on his eighth chapter, on the general treatment of fractures, that the author seems to have bestowed most pains; his observations on the transport of patients suffering from fractures, the removal of their clothes, &c., and of fracture beds, and other appliances for the comfort of the sufferers, are excellent and eminently practical. Nearly sixty pages are devoted to descriptions of various kinds and modes of bandaging, in which the details given as to the various modes hitherto devised for casing fractured limbs in hard or immovable bandages are in the highest degree interesting.

First comes the albuminized bandage of Rognetta, which was for a time extensively used by Hippolyte Larrey, and Bérard: in this variety the hardening material is a compound of white of egg, sugar of lead, and camphorated spirit. Bérard, when he says that in the application of this form of bandage many eggs are necessary, seems to state the truth, for, according to his own account, in one case of simple fracture of the ulna, forty eggs, four ounces of sugar of lead, and a proportionate quantity of camphorated spirit, were consumed.

The starch bandage, and the dextrine bandage, recommended and used by Velpeau (*Bulletin de Therapeutique*, 1838), are each treated of separately and at considerable length. It does not appear, however, that any remarkable difference exists, either in the mode of application or in the general usefulness of those modes of treatment. The chief merit of the dextrine bandage is, that as the hardening material is composed of dextrine (100 parts), camphorated spirit (60 parts), and water (50 parts), it dries and becomes firm more quickly than when starch made with water only is used. The gypsum, or plaster of Paris bandage, Dr. Gurlt approves of very highly. This bandage was first proposed by Mathysen of Haarlem, and has since undergone some modifications as to details of application. There is no doubt that it is an admirable mode of encasing a simple fracture in a close-fitting, rigid, immovable splint: and thereby enabling the patient to move about at an early date after the accident without fear of displacement occurring. Some persons recommend dusting the bandages previous to application with finely levigated plaster of Paris, and afterwards moistening the whole, so as to allow the plaster to set. But a more satisfactory method is to smear the bandages, in the first instance, with plaster of Paris mixed with water to about the consistency of cream; indeed, small pieces of bandage, after the fashion of Scultetus' bandage, laid on separately after having been previously immersed in the "*puree*" of plaster, is the most convenient of all modes of applying this form of splint-bandage.

The author next considers the mode of treating fractures by surrounding the entire limb with plaster of Paris, which he allowed to set as though a cast of the part were about to be taken. The parts were thus, for a time, rigidly fixed. This mode of managing fractures was first systematically put forward, we believe, by Bauch, in his *Dissertatio de gypso Liquefacto ad Fracturas ossium curandas adhibenda*, 1838. It has since then been recommended by Nuttray

and Richter, who speak highly of its use in practice. According to an account—Eaton in the *Medical Commentaries*, 1795—it would appear that this mode of treating broken bones had been known and practised by the oriental nations in former times. W. Eaton, in his *Survey of the Turkish Empire*, London, 1798, mentions having found this treatment for fractures in the eastern provinces of the Ottoman Empire, and among the Arabs and Persians. In the *Lancet*, August, 1834, and in the *Gazette Médicale de Paris*, for the same year, it is stated by Browne that Mr. Kirby, of this city, had already, ten years previous to that date, adopted with success the plaster of Paris treatment, in the case of a physician who was the subject of a fracture of the leg, which, at the end of six weeks, was still ununited in consequence of the restlessness of the patient; it was consolidated after six weeks of this treatment, confirming the statement so strongly made by Mr. Syme, that perfect immobility is the best treatment for ununited fracture.

The treatment of compound fractures forms the concluding portion of this chapter, while the following one (chapter 9), is devoted to the more grave complications of fracture, such as extravasation of blood, false traumatic aneurism, hemorrhage, spontaneous traumatic emphysema, muscular spasms and tetanus, traumatic delirium, acute purulent œdema and gangrene, necrosis, pyemia, &c.

In the concluding chapter of his work, Dr. Gurlt speaks of the deficient formation of callus giving rise to pseudarthrosis, and of the over abundant formation of it giving rise to deformity after fracture. We regret excessively that the space allotted to an article such as this, does not permit us to dwell at greater length on the merits of this portion of Dr. Gurlt's book. Nothing that has been written on the subject seems to have escaped the author: one is only more and more surprised and gratified to find that, to the very end of the work, the same careful research, learning, and unceasing industry characterize every page.

A space of not less than forty pages is allotted to a tabulated account of 484 cases of ununited fracture, and an admirable concluding resumé, replete with valuable statistical information concerning the frequency of false joint in different localities, the advantages and risks attending the various modes of treatment, &c., &c.

In drawing to a close this very cursory notice of Dr. Gurlt's volume, we can only say that we consider it, of its kind, a first-rate

book, and one which, as a work of reference in the library of the surgeon engaged in the important duty of clinical teaching, must be of incalculable value.

Clinical Surgery. By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon and Lecturer on Operative Surgery at Guy's Hospital. Parts II. and III. London : John Churchill, New Burlington-street. 1860 and '61.

Ten Years of Operative Surgery in the Provinces, being the Record of Eight Hundred and Seventy-five Operations, performed from 1850 to 1860. By AUGUSTIN PRICHARD, F.R.C.S., Surgeon to the Bristol Infirmary, &c. Part I., comprising 639 cases. London: T. Richards.

MR. BRYANT'S work would appear to be based upon the author's experience at Guy's Hospital for the previous seven or eight years, and may be taken as a fair exposition of the surgical practice of that institution over this period; moreover, as the author has recorded and tabulated the most salient facts in relation to a great number of the cases which have come under his notice, the work promises to become a tolerably extensive record of surgical statistics.

The book is published in parts. Part II. treats of the surgical diseases and injuries of the nose, larynx, thorax, with its contents, and of the organs of circulation, and opens with chapter 6, in which the subjects of foreign bodies in the nasal cavity, polypus nasi, ozena, &c., are discussed in a cursory manner, and illustrated by cases. In the next chapter, speaking of foreign bodies in the air passages, the author remarks:—"That the foreign body may be lodged at the orifice of the larynx, but that, in the majority of instances, it passes into the rima, where it may be arrested as it passes through into the trachea or bronchi, the *left* being its most common seat." Now, this is so contrary to general experience, that we suspect the sentence quoted contains a typographical error. It is the right bronchial tube, which, with very few exceptions, receives the foreign body—its larger size, and the inclination of the semilunar ridge within the trachea, towards the left side, where it bifurcates, thus dividing the passage unequally, are anatomical reasons quite sufficient to explain the fact. There are eight

examples of the accident alluded to, and in all tracheotomy was performed; in five the foreign body was immediately ejected through the wound; in the remaining three it could not be removed, and death ensued. In two of these the substance was impacted in the rima, and in the third case in the *right* bronchus. To this latter we particularly refer, as a practical point of vital importance is deducible from it:

“A boy, aged 3 years, accidentally inhaled a small haricot bean, and was brought to Guy’s sixteen hours after the accident. When admitted, the respiration was difficult but steady; the child’s head was thrown back, and its veins somewhat congested. In examining the chest, the right side was completely paralyzed, no air passing into the right lung. Tracheotomy was at once performed, but without benefit—the bean did not move, and the child died about 40 hours after the accident. After death, the right lung was found to be completely collapsed. Firmly impacted in the right bronchus was a bean which completely filled the tube; it was removed with difficulty, having evidently much swollen from the moisture with which it was surrounded. The lungs themselves were healthy.”

In a case almost precisely similar, the late Sir Philip Crampton adopted a proceeding which deserves to be imitated in a like emergency: he introduced a bent probe down the trachea into the bronchus, and knowing the sides of the tube to be yielding and elastic, pushed on the instrument *beyond* the foreign body, so as to admit of air entering the inactive and collapsed lung. Immediately the side sprung up, and the impacted substance, which we believe to have been a plum-stone, was shot out with force sufficient to make it strike audibly an adjacent window.

In connexion with the subject of tracheotomy, as performed for œdema of the larynx, produced by swallowing boiling water, a fact is noticed with which practical surgeons are familiar: the passage of milk and other fluids through the artificial opening in the act of swallowing. This is attributed by the writer to the scalded and blistered condition of the epiglottis and glottis, rendering these parts incompetent to act as valves, and insensible to the impression of substances passing over them; but we are aware of the occurrence in question where no such condition of the larynx existed, consequently do not consider the explanation given a satisfactory one. We know the glottis to be the seat of rhythmical movements of contraction and dilatation during the respiratory acts; it is also closed during deglutition. The operation of tracheotomy appears

to put a stop to these movements, by arresting or controlling the action of the laryngeal muscles, which are placed by it in a condition of comparative rest. It has happened more than once for a foreign body, after the windpipe had been opened, to be expelled through the rima, although previously its exit in this direction had been resisted by the approximation of the vocal cords in the act of coughing; for example, in the case of Mr. Brunel, who was operated upon by Sir B. Brodie, it was not until the trachea had been opened that a small coin escaped through the glottis. It is to this state of repose or inaction of the laryngeal muscles, produced by tracheotomy, that we would attribute the passage of fluids through the artificial opening, rather than to the causes assigned by Mr. Bryant. If damage done to the superior opening of the larynx by scalding fluids interfered with the valvular action of these parts, so as to permit fluids to enter the trachea, this accident ought to take place as easily before the operation as subsequently. We are not aware, however, of any case in which the occurrence has been observed, consequently incline to connect the imperfect action of the glottis with the effect of the operation rather than to an inflammatory lesion of the parts.

Passing by the chapters on wounds of the throat and injuries of the thorax, which do not present any points of interest to arrest our attention, we come to the diseases and injuries of the organs of circulation. The subject of aneurism is discussed in a separate chapter; 20 cases are alluded to—2 cervical, 3 humeral, and 15 of the femoral artery in some portion of its course. Of these latter, 11 were popliteal—10 in men, and 1 in a woman; 5 were in the left, 5 in the right leg, and in one patient both popliteal arteries were affected; 3 of the cases were cured by pressure, 5 by ligature, after pressure had failed, 2 died from internal arterial disease when under treatment by pressure, and one died after amputation, from gangrene following the application of a ligature for a burst and diffused aneurism. In all suitable cases the pressure treatment would appear to have had a fair trial. On this subject we shall permit the author to speak for himself:—

“I should, then, suggest that in all cases of popliteal aneurism, unless any decided symptoms are present contra-indicating the treatment, pressure should be primarily resorted to. Let a few weeks, say a month, be expended in such practice, and if good hopes are not held out or realized in that period, let a ligature be applied. Looking at the thing

personally, the above is the line of practice I should select if I were myself the subject of aneurismal disease."

Part III. treats of the surgery of the mouth, pharynx, abdomen and rectum, including hernia. The chapters on hare-lip, cancer of the lip, diseases of the tongue, tonsils, palate, and pharynx, are concise and unimportant. Those on contusions of the abdomen and ruptured viscera, will be read with advantage; several cases of interest are cited, followed by judicious remarks on the treatment of these dangerous accidents.

The chapters on strangulated hernia possess unusual merit, and will well repay a careful perusal. The statistical part of the subject especially, is handled in a very masterly manner. The most important deductions, in relation to every circumstance bearing upon the disease, are carefully eliminated from figures, analyzed and arranged with unquestionable judgment and discretion. Very useful tables are given to illustrate the various points touched upon. To these, however, we are unable to do more than refer. The propositions deducible from one of the tables are so very important, that we here reproduce them in full:—

"Deductions on Inguinal Hernia.

"1. That it is more common than femoral by 74 per cent., and is far less liable to strangulation.

"2. That it rarely becomes strangulated on its first descent; that 24 per cent., at least, are of the congenital form, the remainder being of many years' duration.

"3. That when strangulated, it is more frequently relieved by the taxis than femoral hernia—these means succeeding in about two-thirds of the cases, whilst in femoral it hardly reduces one-third.

"4. That the taxis is most successful in cases of old hernia, less so in congenital, and least of all in the recent; and that a fatal result follows its use in about 5 per cent., the cases generally belonging to the class of old hernia.

"5. That the taxis is not only more successful in its immediate effects, but is less fatal than in the same class of cases in femoral hernia, in the proportion of 5 to 14 per cent.

"6. That herniotomy is more fatal than in femoral hernia; that in recent cases a fatal termination is the rule; in old, about 50 per cent. die, and in the congenital form, about 38 per cent.

"7. That when the sac is opened, which appears to be necessary in about four-fifths of the cases, death takes place in about 60 per cent., the congenital form showing the most favourable results.

"8. That when the sac is not opened, which is the case in about 20 per cent. of the cases operated on, the death-rate sinks from 60 per cent. to 22, the congenital form here being the most favourable; and in old hernia, the mortality sinks to only 16 per cent., or less than 1 in 6.

"9. That a strangulated recent inguinal hernia is rarely reduced by the taxis, more than two-thirds requiring herniotomy, and that a successful result is a rare occurrence.

"10. That the congenital form, when strangulated, is successfully treated in more than half the cases by the taxis, and that a fatal result of such treatment is very rare.

"11. That in the congenital form the operation of herniotomy is more successful than in the recent or old, 38 per cent. of these cases dying, against 50 per cent. of the old.

"12. That in the old hernia, at least 70 per cent. are reducible by the taxis, 5 per cent. proving fatal.

"13. That in the old, herniotomy is fatal in about half the cases; that when the sac is opened 60 per cent. die, and when unopened 16 per cent.

"14. That in inguinal hernia, as a whole, when the sac is opened, the operation of herniotomy, is far more fatal than when it is not, the difference being at least 40 per cent.

"Deductions on Femoral Hernia.

"1. That it forms but 10 per cent. of the cases of hernia; but 44 per cent. of the cases strangulated, femoral hernia being far more liable to strangulation than inguinal.

"2. That when strangulated, at least 20 per cent. are of recent origin, that is, are strangulated on their first descent.

"3. That when strangulated, the reduction by the taxis is far less successful than in inguinal hernia, by nearly 40 per cent., and the taxis is also far more fatal.

"4. That the taxis is most successful in recent cases, and the least so in old—1 in 3 of the former, and 1 only in 4 of the latter being reduced by such means; and 14 per cent. of these old cases are fatal.

"5. That herniotomy is less fatal than in inguinal by at least 10 per cent.; that in recent cases 66 per cent. die, and in old, only 36 per cent.

"6. That when the sac is opened, the mortality is 20 per cent. greater, the difference ranging between 50 and 30 per cent.

"7. That in recent hernia the sac is opened in only 38 per cent. of the cases, and left unopened in 62 per cent., the death-rate falling from 87 per cent. in the former cases to 54 per cent. in the latter.

"8. That in old hernia the sac is opened in 62 per cent., and left unopened in 38, being exactly the reverse of the recent; the death-rate falling from 45 per cent. in the former, to 22 per cent. in the latter.

"9. That recent cases of strangulated femoral, treated by herniotomy,

are at least twice as fatal as old; that the sac is not required to be opened in the majority of such cases, and that in these the mortality is less by 33 per cent.

"10. That old cases of strangulated femoral, treated by herniotomy, are half as fatal as the recent; that when the sac is opened they are twice as fatal as when it is not opened, the death-rate in the latter being but 22 per cent.

"Deductions on Umbilical Hernia.

"1. That it forms but 5 per cent. of the cases of hernia, and 6 per cent. of the cases strangulated.

"2. That 73 per cent. of the cases strangulated are reducible by the taxis, 10 per cent. proving fatal.

"3. That 27 per cent. are reducible by herniotomy, 80 per cent. dying."

With reference to the much debated question of opening or not opening the sac, Mr. Bryant is irresistibly led by an analysis of the materials at his disposal, to prefer the "minor operation" wherever there is a possibility of performing it; and indeed it would be difficult to resist the conclusion deducible from the numerical survey of the question:—

"Taking the cases of inguinal hernia in which herniotomy was required, death took place in 60 per cent. of the cases in which the sac was opened, and in 22 per cent. only in which it was left alone, the difference being nearly 40 per cent.; the cases in which the sac was opened being nearly three times as fatal as were those in which it was left untouched. In femoral hernia the same conclusion appears to be equally manifest, the death-rate in the two cases differing 20 per cent.; where the sac was opened the mortality being 50 per cent., and when left unopened, only 30 per cent."

Referring to the various agents employed for aiding the taxis, chloroform is spoken of in the most laudatory terms; it would appear to have succeeded in nearly 20 per cent. of the cases in which other means had been previously tried without effect; consequently we should not lose time with other remedies when we possess one so incomparably their superior. "By its use, delay is not occasioned, symptoms are not masked as may be done by opium, and the danger of long-continued and repeated taxis is annulled," and this recommendation of chloroform we unhesitatingly endorse.

On the subject of after-treatment, the principle of preserving the inflamed and injured intestine in a state of rest, is properly enforced;

for this purpose, opium, in moderate doses, is recommended. As respects purgatives, there are few cases in which they should be employed, unless symptoms, evidently resulting from constipation, are produced; and then the mildest means will suffice, such as the administration of an enema or a dose of castor oil.

Anal abscess, and diseases of the rectum, are inadequately discussed in the concluding chapters.

We have now passed in review the contents of Parts II. and III. of Mr. Bryant's *Clinical Surgery*, so that our readers may be able to form some idea of the character and scope of the work. Based, as the author's observations are exclusively, on clinical experience, none of the subjects are treated of in a complete and perfect manner. The book, consequently, is not well adapted for the junior student; nowhere are authorities quoted, and this arrangement we approve of—to have acted otherwise would be to alter *in toto* the character of publication. Nor will the disciple of the innovating school of surgery find much of novelty wherewith to delight his imagination; but the thoughtful, practical surgeon, will read this work, so far as it has gone, with interest and advantage.

The other publication, referred to at the head of this review, gives an account of 639 operations. The cases are briefly detailed, as it were from the case-book of the author, and the result, whether successful or otherwise, faithfully recorded. When cases of special interest present themselves judicious practical remarks are appended; and in many instances an accurate histological description is given of pathological products. The series of eye operations forms a very important record. Part I., which is reprinted from the *British Medical Journal*, is only in our hands. When the work is complete we may notice it more particularly.

The Principles and Practice of Obstetrics. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Obstetrics, in the University of New York. Samuel S. and W. Wood. New York: 1861. 8vo, pp. 731.

WHEN any one occupying such a position as that held by Dr. Bedford—a professor in a university, an author of established reputation, and a practitioner enjoying public confidence—when

such a one offers to the world a systematic treatise, it must be inferred that he feels he has something new to communicate, some new principles to enforce, or some new rules of practice to inculcate and illustrate, or else, that he is dissatisfied with the manner in which the established principles and rules have been taught in the systematic works hitherto in use. On the publication of such works it is certainly the duty of journalists to examine them carefully, to draw attention to the new principles and rules of practice taught, to show wherein these vary from those hitherto considered correct, and even to criticise the whole performance, and raise a warning voice, if need be, against inaccurate, false, and erroneous teachings; for the influence of a teacher is without limit, it extends in ever widening circles to affect for good or for evil the thoughts and actions of generations yet unborn, long after the teacher has passed from his teaching, and when his place shall know him no more.

Impressed thus with a deep sense of our own responsibility as "watchmen on the walls," we referred, on taking up this treatise of Dr. Bedford's, to the preface, to see what were the points to which he wished to draw particular attention, and what were the motives influencing him to its publication. We at once saw that it was in the chapters on operations generally, and more especially on embryotomy, the Cesarean section, and the use of the forceps that they were to be found; and, on reading these we met with so much that we consider erroneous, that we deem it our duty to protest earnestly against the general reception of the work as a class book for students.

Dr. Bedford arranges all labours in two classes—natural and preternatural. Under the head of natural he places "all cases in which delivery is effected by the unaided efforts of nature, or in other words, without the assistance of art." "Preternatural labour, on the other hand, as its name implies" is, he says, "contrary to the natural process, and, therefore, needs the interposition of science: it may be divided into *manual* and *instrumental*." Although apparently a simplification, this classification is attended with as many difficulties as more elaborate ones, as the various species of other authors have to be treated of as accidents or complications affecting the two primary classes; and it is obvious that many labours may be effected by the unaided efforts of nature, and yet be so far from natural that both mother and child may lose their lives in the process. It is, however, to the second subdivision of

preternatural labours, or the instrumental, that we would first call attention; these are further divided into those in which blunt instruments—as the vectis and forceps—are used, and those in which cutting ones are to be resorted to—as in symphyseotomy, the Cesarean section, and embryotomy. The first of these, symphyseotomy, or the Sigaultian section, Dr. Bedford, along with all modern writers, condemns; but between the Cesarean section and embryotomy he draws an elaborate comparison, which he concludes with the following startling and emphatic assertion:—

“Therefore, in the fulness of my faith, I have no hesitation in saying that, *if the child be alive, the woman at the completion of her pregnancy, and it be made manifest that the maternal passages are so contracted as to render it physically impossible that a living child can be extracted per vias naturales, I should between the two resources—craniotomy and the Cesarean section—not hesitate to decide in favor of the latter.*”

We call this startling; as we did not think any one could be found, at the present day, to enunciate such a doctrine, except the writer of the article on “obstetric morality,” which appeared a few years ago in a theological review published in this city; and we must say we are not a little proud that no medical man in these kingdoms has been found to avow himself ready to act on the species of morality advocated in that article.

The choice between the Cesarean section and other modes of extracting the child, Dr. Bedford says, “must be determined by a just balance of the evidence;” but, instead of weighing the evidence impartially, and as a judge, he uses it as would an advocate, and, we regret to say, an unscrupulous one: he suppresses what is unfavourable to his cause, magnifies that which seems to support it, and, with the ingenuity of an advocate, states at the lowest value that which might be opposed to him. Thus he quotes Dr. Churchill as showing that the mortality of the mothers, in the cases of craniotomy he has collected from various authors, is as one in five; but he singles out Dr. Clarke’s returns, which show a mortality of one in three, and then insinuates that even this is not the worst of it, that these are but the immediate deaths, and that of those who ultimately recover many are perhaps so injured as to be miserable ever after. He makes no allusion to the fact recorded by Dr. Churchill, on the same page, that in 12 private cases, where Dr. Clarke had an opportunity of operating at the proper time, and before the patient had been actually brought to the point of death, by

delay, none of the mothers died; and that in a series of such cases, the deaths, instead of being 1 in 5, or 1 in 3, were as low as 1 in 29.^a

In speaking of the deaths from the Cesarean section, on the other hand, instead of taking the highest mortality, as he did in the other case, he picks out the lowest, and adopts that as his standard of comparison, and argues that even that is higher than it should be, if the cases were operated on in proper time. He thus makes it appear, that while in craniotomy all the children are lost, and 1 mother out of 3; in the Cesarean section only 1 child out of $3\frac{1}{3}$, and 1 mother out of $2\frac{1}{3}$ will perish, and by such means urges his pupils to adopt the rule of practice we have quoted above.

Unjustifiable as is this mode of advocating the Cesarean section, it is surpassed by the directions given as to its performance. When speaking of the use of the forceps—an operation not attended with any risk to the mother's life—Dr. Bedford is most particular in directing that her consent should be obtained, and even advises that the instruments should be shown to her, and the mode of their operation illustrated; but in this almost certainly fatal operation, he recommends that the patient's consent shall not be asked, in order to prevent a mental shock. "The mother," he says, "should be kept in partial (!) ignorance; tell her, for example, that it has become necessary for the safety of her child, and the termination of her labour, that you should interpose and assist nature;" then, "*place her under the influence of anæsthesia, lull her into unconsciousness, and make her blissful in her ignorance.*"^b We could not trust ourselves to speak of this direction as it deserves, nor is it necessary that we should.

But, after all, Dr. Bedford's practice is probably better than his precepts: it does not appear that he has ever performed the operation he advocates. In two cases he performed what he calls the vaginal Cesarean operation, which is but the incising of the os or cervix, but he does not give any cases of the true Cesarean section, nor does his name appear in any of the published lists of operators. So far from

^a We give these figures from the page from which Dr. Bedford quotes, but there is evidently a clerical error, as the numbers are 4 deaths in 124 cases, or 1 in 31. This is corrected in the appendix, which is a reprint, from our 26th Vol., of Dr. Churchill's most able reply to the article on "obstetric morality." It is not a little remarkable that though Dr. Bedford's quotations from this edition of Dr. Churchill's book are most full and numerous, he makes no allusion whatever to this appendix.

^b The italics are the author's.

repudiating craniotomy, he has devised an alteration in the crotchet for facilitating its performance.

Crotchet.—Dr. Bedford proposes to add to this instrument, a guard, which is made to slide on the shank, so as to effectually cover its sharp point and protect the soft parts of the mother if the instrument should slip. The guard is movable, and the end of it he has fashioned to serve as a blunt hook as a matter of economy. If the guard does not interfere with the application of the instrument, it will certainly be useful; but, with the careful operator, it will be his own fingers that will derive the benefit rather than the mother, as the finger is always placed opposite to the point of the instrument to receive it in case of a slip, and seldom escapes unhurt in difficult operations. Dr. Bedford seems to be indifferent as to the part of the head he seizes with the crotchet, but all well-informed operators agree with Dr. Simpson, that when the instrument is fixed on the occipital, or posterior part of the parietal region, the head can be extracted with much more ease, or through a much smaller pelvis than when it is fixed on the frontal region.

We now pass, in a retrograde manner, to the chapters on the use of blunt instruments, viz., the Fillet, the Blunt-hook, the Lever or Vectis, and the Forceps. It is only of the lever and forceps we have to speak.

The lever or vectis, Dr. Bedford regards as only useful for correcting some peculiar malpositions of the head. For example, when the occiput is extended backward the lever will, he says, prove, in dexterous hands, an important auxiliary in changing the position to one of the vertex, or in case the head should fail to rotate in the pelvic cavity, and the hand be inadequate to accomplish the movement, the lever may be employed with good effect, but under no circumstances should it, he says, be resorted to as a tractor. In the condemnation of the vectis as a tractor we fully concur. It is an instrument that, in our own practice, we never use; in the hands of others we have seen it cause most extensive and even fatal injuries to both mother and child. Even as a rectifier of malpositions we believe that the instrument might, with great advantage, be omitted from the *armamentarium* of the accoucheur altogether, for with Dr. Bedford we believe—"That the truly skilful accoucheur rarely (comparatively at least) employs instruments, for the obvious reason that, in the first place, he is thoroughly imbued with a knowledge of the laws by which nature is regulated in the parturient effort, and secondly, he is cognisant that when not interfered with by

officious meddling, this same nature is generally adequate to the proper accomplishment of her work." As to the particular malpositions referred to, we believe that, except when the pelvis is very large, or the fetal head very small, when they are of no consequence, they are almost always rectified without the interference of the accoucheur, and did we want confirmation in our opinion, it would be amply afforded by the fact referred to by Dr. Bedford, that in the Dublin Lying-in Hospital, under the mastership of Dr. Collins, in 16,414 deliveries, the lever was used but three times, and in the same institution, during the mastership of Dr. Shekleton, as reported by Drs. Sinclair and Johnston, in 13,748 deliveries, the lever was resorted to but once.

The Forceps.—Notwithstanding that Dr. Bedford deprecates, in strong language, the increase in the numbers and forms of the forceps, and thinks the interests of humanity would have been better and more wisely served, had the time employed in their construction been devoted to the consideration of the circumstances and the manner in which the instrument should be used, he has himself proposed alterations in its construction—alterations that we cannot at all consider improvements. In the first place, he adopts the second or pelvic curve of Smellie and Levret—a curve that has long been repudiated by the Dublin school; and he adopts the button-joint, instead, as he says, of the pivot-joint—the open lock or mortice and tenon joint, such as we use here, not being alluded to by him. But the most important alterations he suggests are as to the handles. These he has made longer than usual, so as to afford a greater lever for making traction, but as he does not give any measurements, we cannot judge as to the degree to which he lengthens them. The extremity of the handle he prolongs in a curve, so as to form a hook for the hand. At the other extremity of the handle, or where it joins the blade, he places a ring, so that when the blades are *in situ*, the rings are opposite to each other. In using the instrument the handles are to be grasped in the right hand, and then over this the left hand is to be placed, with the index and middle fingers in the rings, so as to obtain additional extracting power, and at the same time give it "the proper direction, and facilitate very much the lateral movements so essential to impart to the child's head during the stages of its delivery." The force employed, Dr. Bedford says, "should be compound, consisting of *two-thirds lateral and one-third extractive.*"

We do not very well understand the meaning of this direction as

to two-thirds of the force being lateral ; but we have no hesitation in asserting, with Drs. Sinclair and Johnston, that traction should only be made in the one direction, namely, that of the curve of the axis of the pelvis, and that lateral motion of any kind, such as sawing or twisting the grasped presentation, should never be attempted. If any exception to this latter rule, that there should be no twisting of the grasped presentation, can be admitted, it is in cases where it is necessary to apply the forceps when the head is presenting with the face to the pubes ; and yet, strange to say, in the elaborate descriptions Dr. Bedford gives of his mode of effecting delivery in every possible position of the head, in this one alone he does not recommend it to be rotated, as will be seen in the following extract:—

*“Second Position—The Occiput regarding the Concavity of the Sacrum, the Face to the Pubes.—*It will at once be seen that the head here is completely reversed ; and, moreover, in this position the forceps will, in the majority of instances, be indicated for the reason of the protraction of the labour ; for you are not to forget that the occiput, being posterior, must have traversed the entire length of the posterior wall of the pelvic cavity—consisting of the sacrum and coccyx—before it can make its exit ; and, as a general rule, the increased duration of the labour will have so far perilled both mother and child as to render it necessary to resort to the forceps. But, in addition, any of the accidents already mentioned would constitute another motive for the use of the instrument. The rules for the introduction of the forceps are precisely the same as in the first position. It is well, however, to remember that there will be more difficulty in the extraction of the head in this second position, and the force employed should be more guarded, for the face cannot be brought under the pubes with the same facility that the occiput was in the preceding case, because of the greater irregularity of its surface ; again, the distension of the perineum will be much greater, because of the rounded and more prominent configuration of the occiput. It must also be recollected that, in this position, the forceps, as soon as the head begins slightly to protrude, instead of being elevated, must be depressed, for the purpose of bringing the chin from the sternum, so that when the head is delivered the instrument will be at a right angle with the spinal column.”

We give the author's directions as to the use of the forceps in these cases in full, that we may not misrepresent him, and because we feel bound to protest against every item of them. We deny that “the forceps will, in the majority of instances, be indicated for the reason of the protraction of the labour.” Cases in which the

head enters the pelvis with the face directed anteriorly are by no means rare. Dr. Halahan found them to be as frequent as 38 per cent. of his entire cases;^a and of these 80·5 per cent. changed into the first or second position in the progress of the head through the pelvis. But Dr. Bedford's remarks are more particularly intended for cases where the head has passed down into the pelvis without making the usual turn; but even such cases only require artificial aid exceptionally. It is true that the older writers assert that all such malpositions must be remedied, and that Dr. Bedford might bring an overwhelming array of authorities to support his assertion; but had he consulted the Reports of the Dublin Lying-in Hospital, as in undertaking to write a "practical book, one which will develop the phenomena of parturition in their various phases," he ought, he would have better learned "the laws by which nature is regulated in the parturient effort; and that, when not interfered with by officious meddling, this same nature is generally adequate to the proper accomplishment of her work."

Of the 33 cases of face to pubes presentations recorded by Drs. Johnston and Sinclair as having occurred amongst 13,748 deliveries, 20 were completed within 24 hours, without assistance; only 4 exceeding 12 hours; and of the remaining 13, only 3 of the uncomplicated cases required the forceps, and 1 the perforator. Dr. Collins, in his Report, gives but 12 cases as having occurred amongst his 16,654 births, in 10 of which labour was completed under 24 hours, 6 being under 12. Of those that exceeded 12 hours, 3 had the pelvis very defective, and required to be delivered by the perforator; and in another case this instrument was used, because the hand and funis descended with the head, and the child was dead. "But," says Dr. Collins, "by reference to the cases, it will be clearly seen that the *position* of the child did not in any instance render artificial delivery necessary;" and he sums up by saying, that "all attempts to alter the position of the head in the early period of labour, when found presenting in either of the above-mentioned ways," (face, or face to pubes) "are, in my opinion, injudicious. The labour should be treated as one perfectly natural."

We have thus proved, by irrefutable facts, that face to pubes cases do not, as a rule, require to be delivered by artificial means, and do not endanger the mother and child by their tediousness. We might refer to many high authorities as holding the same

^a See our last Vol., p. 470.

view, but we prefer rather to appeal to "the text book of nature," than to array opinion against opinion. Now, as to the mode of operating where assistance with the forceps is necessary, Dr. Bedford's directions to depress the handles (he operates with the patient on her back), so as to bring them into a right angle with the spinal column, surprise us beyond measure. He may quote Naegelè as an authority for not attempting to rotate the head, and seeing that they both use a forceps with a pelvic curve, even the warmest advocates for rotation will admit that they are right, yet the direction to make extension backwards so as to raise the chin from the sternum, is so at variance with the natural mechanism of delivery in such cases, that we cannot understand why it should be given. The natural process in such cases is, for the forehead to rest on the pubes as on a fulcrum, and for the occiput to make a sweep of the perineum as the face does in the purely natural cases; and in using the forceps these movements should be imitated, and the handles brought forward towards the abdomen of the mother, as in natural cases.

We cannot leave this subject of the forceps without referring to what we consider a very unjust imputation on the English School of Midwifery of the present day, viz., that the dicta of Denman, Merriman, and others, have taken so strong a hold on it as to lead to such a delay in using the forceps as to be fraught with evil, not only to the safety of both mother and child, but also to the reputation of the medical man—an imputation that the most cursory acquaintance with the current literature is sufficient to repel. We must also allude to the case of vesico vaginal fistula, brought forward by Dr Bedford, on the authority of a talkative patient, as illustrative of the injuries that may be produced by the forceps in unskilful hands; we all know too well how ready patients are to blame their medical attendants, and cannot wonder that actions for malapraxis are so common in America, when university professors hold such conversations as the following with patients presenting themselves at their hospitals. It will be observed that the woman was three days in labour, and though she describes it as only lingering, not severe, this tediousness was a good reason why the professor should not only not have imputed the fistula to the use of the forceps, but, on the contrary, should have taken some pains to explain to the woman that the injury was most probably caused by the pressure of the head on the bladder during the three days before she obtained assistance—a much more likely cause of slough-

ing and fistula than any injury that could be inflicted by the forceps.

"Mrs. R., aged 22 years, married, complains of inability to pass her water in the natural way, and says it runs from her nearly all the time through the front passage. 'How long, madam, have you been married?' 'Just twenty-six months, sir.' 'Were you a healthy woman before your marriage?' 'Yes, sir; I never had a day's sickness, thank God.' 'You have had a child, have you not?' 'Yes, sir.' 'When was it born?' 'Fifteen months ago, sir.' 'How long were you in labour?' 'Three days, sir.' 'Was your labour severe?' 'No, sir, but it was lingering.' 'Had you any one to attend you?' 'Yes, sir, there were two doctors with me.' 'Was your child born alive?' 'Oh! no, sir; the poor little thing was all bruised, and its head was a good deal injured.' 'Why so, madam?' 'The doctors did it, sir, with the instrument.' 'Then, you were delivered with instruments, were you?' 'Yes, sir, indeed I was, and a poor sufferer have I been ever since!' 'No matter, my good woman, do not deplore the past; you have been cruelly wronged, but we will endeavour to do something for you; at all events, we will make you more comfortable.' 'Thank you, sir.' 'Before your delivery, had you any trouble with your water?' 'None in the world, sir.' 'How long after the birth of your child did you experience trouble in this way?' 'Since the birth of my child, sir, my water has always troubled me. It runs from me, and I cannot help it!' 'Did you call the attention of the doctors to this circumstance?' 'No sir, for they never came near me after I was delivered.' 'Then, madam, they did not do their duty.' 'Indeed they did not, sir.' 'How long was it after the birth of your child that you left your bed?' 'I could not go about, sir, for nearly six months.' 'Have you had your courses since your confinement?' 'Only once, sir, about two months ago, and I thought I would have died from the forcing pain I had.' 'Did the usual quantity pass from you?' 'No, sir, very little, indeed.'"

Some further matters we had noted for observation, such as the direction that all midwifery operations should be performed with the patient lying on her back; that in turning for placenta previa, the hand should be passed through the placenta; and, more particularly, the doubtful position in which the question of the propriety of inducing abortion is left, where a woman is pregnant with a pelvis so narrow that it is physically impossible that a viable child can pass through it, and where, if the pregnancy be allowed to go to the full period, embryotomy or the Cesarean section must be performed. "What," asks Dr. Bedford, "is the duty, under these circumstances, of the conscientious accoucheur, who is not actuated

by a thirst for innocent blood, but who is most anxious to discharge with fidelity the sacred obligations which his profession imposes on him?" This important question, the teacher says, he cannot undertake to determine for others; it is one, he says, which must be left to conscience, and a sincere desire, as far as may be, to do what is right; nor does he say plainly what would be his own decision under the circumstances, though he allows it to appear that, rather than interfere with the living germ, he would let the pregnancy go to the full period, and make the mother undergo the risks of the Cesarean section. We have, however, done enough for the fulfilment of our duty—a painful and disagreeable task it has been. But it was incumbent on us to sound the alarm, and we could not desert the post of honour, with which we have been entrusted.

On Dropsy, connected with Disease of the Kidneys (Morbus Brightii), and on some other diseases of those organs, associated with albuminous and purulent urine. Illustrated by numerous drawings from the microscope. By W. R. BASHAM, M.D., F.R.C.S., and Physician to the Westminster Hospital. Second Edition. London: Churchill, 1862. 8vo, pp. 347.

JUST three years ago we had the pleasure of reading Dr. Basham's first edition of his work on diseases of the kidney; we expressed at that time the high sense we entertained of the value of the work, and our opinion has been fully borne out by a further edition of the same being required within the short period of three years. The work before us is considerably larger than the first edition, containing, in fact, nearly 100 pages more. The author tells us in his preface that "a large amount of fresh matter has been added confirmatory of the object which the author originally had in view—to show that a careful examination and record of the microscopic appearances of the sediment in albuminous urine, may at all times be accepted as a truthful interpretation of the advance or recession of the renal disorder, and, therefore, is essentially the safest guide to treatment. Passing over the first 250 pages, an ample review of which we already gave in our analysis of the first edition, we shall take a glance at what Dr. Basham has to say about "albuminous, sanguinolent, and purulent urine, unconnected with dropsy;" and here the author starts with the aphorism, that urine may present

all the foregoing characters "and yet not be symptomatic of morbus Brightii; for these states of the urine, apart from the tubercasts, are common to many disorders of the renal organs. In the one case a greater or less amount of general dropsy is always present; in the other, those morbid conditions of the urine are independent of any such symptom." He adds, further down, "no satisfactory explanation of the cause of the urine becoming temporarily albuminous has hitherto been offered." It is a functional disturbance, depending, in all probability, on diffuse capillary stasis, by which the functions of all organs are more or less impeded or deranged."

Here follow several interesting cases, illustrating the several conditions of urine mentioned above, especially some cases of hematuria depending on mental excitement and agitation. These are followed by a chapter on abscess of the kidney which is well worthy of attention; it is carefully written, and illustrated by good coloured plates. The final chapter treats of hematuria depending on malignant disease of the kidney, and on polypus of the bladder; both diseases are far from being common, both are inevitably fatal; and the medical man can, therefore, do no more, in such cases, than endeavour to mitigate the sufferings of his patient, and smooth his passage to the other world. But it is no less essential that the medical man should be able to make a correct diagnosis, as hematuria may depend upon very different causes. In this chapter the student will find some excellent information upon the subjects in question, and we fully agree with Dr. Basham as to the diagnostic differences he lays down. Some years ago we had under our care a very interesting case of polypus of the bladder—it terminated fatally; but we were fortunate enough to be permitted to make a *post mortem* examination, which quite corroborated the diagnosis we had made. The case fully illustrated Dr. Basham's assertions, that "in few cases this form of disease brings with it the expressive and unmistakable features of malignant diathesis." In our case the peculiar lemon tinge of malignant disease did not appear till a short time before death, although the patient had polypus for upwards of two years. "The pathognomonic symptom of these diseases seem to be frequently returning hematuria; the urine during the intervals of the early period of the disease exhibiting no indications of renal or vesical disorder." "The hematuria is the first premonitory symptom, and the appearance of blood in the urine is unaccompanied by any sympathetic irritation, except that while it continues

there is a troublesome frequency to pass water." Our patient never complained of any pain; and after an attack of hemorrhage his urine would appear to the naked eye perfectly healthy and free from blood, and would continue so for weeks if he kept quiet. The rules for distinguishing between hemorrhage from the kidneys and hemorrhage from the bladder are also good; and the only addition we make to Dr. Basham's directions for treatment is, to avoid as much as possible the introduction of instruments into the bladder when it is ascertained, or even fairly suspected, that the hemorrhage depends on the presence of a polypus in it; no good can be done, but on the contrary much harm may ensue, as the catheter may pass into the substance of the polypus, and by that means increase the hemorrhage. It is generally difficult to check the hemorrhage in this case. In our hands gallic acid, in five-grain doses, every third hour, has proved of service, and on one occasion we obtained a decided success by injecting the bladder with a solution of alum. We commend this work to all who desire to learn the true significance of albuminous urine—a significance most important, both to the patient and to the practitioner, for it may signify either a simple innocent transitory affection, or a serious irremediable disease.

A Manual of the Diseases of India. By W. J. MOORE, Bombay Medical Service. London: Churchill. Fcap. 8vo, pp. 208.

THIS small book, on an extensive subject, will be found to contain a large amount of condensed information on the different subjects treated by the author.

The introductory chapters on the climate—its immediate and remote effects on the European constitution—the means of preserving the health of Europeans in India—and on hill and marine sanatoria, without containing anything original, present a compendium of the most recent views on these important subjects.

The author strongly advocates the expediency of using the hill stations, not solely as convalescent depôts (which purpose, it must be confessed, they frequently fail to serve, in consequence of unsuitable cases being selected for them), but also as depôts for recruits on their arrival in the country, and before disease shall have commenced its ravages; this precaution being the more necessary in

consequence of the early age and immatured physical conformation at which young soldiers are sent out. But, unfortunately, even well selected convalescents sent to the hill stations do not derive all the benefit they might enjoy from the change of climate, and not unfrequently come back from the hills worse than when they went, having contracted rheumatism or diarrhea from the deficiency, or perhaps entire absence, of due sanitary surveillance—the men themselves, as well as their officers, too often thinking that the mere fact of their being in the hills relieves them entirely from the necessity of paying any attention to the rules necessary for securing or preserving health. And there can be no doubt but that there are at all hill stations many convalescent soldiers who, at certain seasons, would be benefited by a return to the plains, or at least to a lower level for a short period.

That cases not likely to derive the greatest amount of benefit from a residence in the hills are frequently sent there notwithstanding, is not always to be attributed to want of discretion on the part of the selecting officer, but frequently to the necessity of circumstances, arising from the fact that the opportunity of selecting men for home or for the hills, occurs respectively but once a year, viz., for home at the end of, and for the hills at the beginning, of the hot season. Now it is evident that cases requiring immediate removal to a home climate must occur more frequently than once a year; and what can a surgeon do but, when the season for invaliding to Europe has passed, wait for the season for the hills; so that if perchance his patient survive the interval, he may drag on his existence in the hills until the next annual invaliding season.

This subject is not alluded to by the author of the work before us, but it is one which irresistibly suggests itself, from the painful evidence we have so frequently seen of the disastrous results of limiting the selection of invalids for home to an annual process.

The author cautions his readers against the routine use of mercury; yet it is curious to observe that, in commencing the treatment of *remittent fever* he recommends six grains of calomel, followed by sulphate of soda, or compound jalap powder, daily, “until the alvine evacuations are of natural colour.” We have never used mercury in such large or frequent doses for fever, having found one or two grains of calomel, with three grains of quinine, and one-third of a grain of morphia at bed time, followed by a castor oil draught in the morning, to produce, generally speaking, ample action of the bowels. This may be repeated for two or three nights, and during

the day quinine in three-grain doses, with saline diaphoretics, and a little wine, with sago or arrow-root; leeches to the head and epigastrium, if headache or epigastric tenderness be troublesome, give great relief. The various cerebral thoracic and abdominal complications must be carefully watched for and treated as they arise. In this mode of treatment we have never observed any injurious effects from the use of quinine during the fever; and the determination to the head, so liable to be produced by large doses, is avoided. At the same time, during a remission or intermission, a 10-grain or scruple dose may often be given with advantage.

For the *leucocythemia splenica*, so common among young soldiers who have suffered much from fever, the author recommends a thorough change of climate. In the earlier stages, before confirmed organic deposit shall have occurred, such cases derive benefit from the hills—the splenic enlargement disappearing with the fever; but when the fever is inveterate, and the spleen organically enlarged, a sea voyage or a change to Europe is essential to the recovery of health. As medical means, he recommends iron, quinine, and tonic aperients. He has not experienced much benefit from iodine or bromine. In this matter our experience is different; as we have frequently used with advantage iodide of iron and bromide of potassium, each in combination with quinine; at the same time applying locally the tincture of iodine. The author does not allude to the general anasarca occasionally present with enlarged spleen, without albuminuria, and requiring similar treatment, with the warm bath and generous diet. He very justly forbids the employment of mercury or depletion in spleen cases.

On the subject of *heat apoplexy* we cannot say that the author has been successful in simplifying the classification of cases. He gives four varieties, viz.:—

“1st. Insolation, *coup de soleil*, or heat apoplexy, due to the direct rays of the sun.

“2nd. Heat apoplexy, due to direct rays or elevated temperature.

“3rd. Heat asphyxia, occurring both from direct exposure and elevated temperature.

“4th. Cerebral fever, also caused by direct and indirect heat.”

The symptoms which he details under Classes 1, 2, and 3 are so much alike that it is not easy to distinguish them. The cerebral fever, or fourth class, he considers merely as the ardent fever, the symptoms of which will vary according as head or chest becomes implicated.

We are ourselves in the habit of classing these cases under two heads, viz. :—

1st. Occurring during the day, and from direct exposure.

2nd. Occurring at night, and dependent upon high temperature, combined with the vitiated atmosphere of the barrack, producing malæration of the blood.

The symptoms in each form are very similar. In the second the tendency to pulmonary congestion is perhaps more marked; but this also occurs in the later stages of the first. From the time of occurrence, and the consequent delay in treatment, the second is generally the more fatal form.

In their pathology, the two forms above detailed differ: in the first the nervous system is primarily engaged, being, as Dr. Moore says, in a state of concussion. In the second, occurring at night, and frequently during the heavy sleep of intemperance, malæration of the blood appears to be the starting point, dependent upon the diminished proportion of oxygen in the rarefied air, which undergoes a still more deleterious change in the barrack-room, where, notwithstanding punkahs and open doors, the cutaneous and respiratory emanations of 40 or 50 men produce a really stifling atmosphere.

But let the origin of the disease be what it may, the symptoms soon become the same; and no one who has ever felt the dry pungent heat of skin—in these cases the true “*calor mordax*”—or heard the painful moan, can ever forget it.

These cases should not be confounded with those in which syncope, or exhaustion from heat, is the chief symptom, and which may proceed to a fatal termination, without reaction and without presenting the heat of skin which is so marked a symptom in the other cases; this form of disease more resembles the “cutaneous asphyxia” mentioned by Dr. Fourcault—by whose experiments, as also by those of Bècquerel and Breschet—it was found that when the skin of animals was covered by a varnish impermeable to the air, and by which the perspiration was effectually checked, the temperature rapidly fell, and the animals died asphyxiated.^a Such a state of skin easily arises in India when the proper precautions as to ablution and suitable clothing are not employed. Cases of syncope from this cause are too frequently recorded under the head of heat apoplexy, and tend to swell the list of recoveries from that disease; the treatment adopted, viz., cold affusion and diffusible stimulants, is frequently successful; but in the true heat apoplexy, with pungent

^a Carpenter's *Physiology*. Fourth Edition, pp. 634-646.

heat of skin—stertorous breathing—painful moaning—spasmodic action of muscles, perhaps of only one side of the body, or one limb—contracted pupils—suffused conjunctivæ—let the treatment be what it may, with or without bleeding, cold affusion, stimulants, and counter irritation, the number of recoveries is lamentably small. The vapour bath, with cold to the head, diffusible stimulants, and free evacuation of the bowels, has, under the care of the late Dr. M. S. Todd, surgeon of the 27th Regiment, been followed by more benefit than any other plan of treatment; free action of the skin was established, and the congested kidneys relieved.

Under the head of *dysentery*, the writer gives a synopsis of almost every proposed plan of treatment, and advocates the mild administration of mercury—but that only in the early or acute stage; he deprecates the employment of large doses of calomel. The treatment by large enemata of tepid water, proposed by Mr. Hare, of the Bengal Medical Service, he has employed with some benefit, but says the “tube hurts the rectum.” This is by no means our experience, if the tube be carefully introduced; and the subsequent relief from the emollient application of warm water to the inflamed mucous membrane is so decided, and the advantage of having the bowel thoroughly cleared by such simple means, without using any irritant purgative, is so great that we always make it an essential part of the treatment—repeating the enemata generally three times a day; internally the administration of ipecacuanha in half drachm or two scruple doses, preceded by a full anodyne of one drachm or two scruples of tincture of opium, and a sinapism on the epigastrium, as recommended by Mr. Docker, will be found to give great relief in the acute stage; and although a considerable amount of sickness is occasionally produced, we cannot agree with the author that on this account “it is difficult to prevail on most patients to continue it,” as in many cases it has been a subject of wonder to us that the stomach should tolerate this medicine so long as it does; and even should the first or second dose be rejected, the third may be retained.

On the subject of *cholera*, its pathology and treatment, the author having given the views of most writers without advocating any, wisely refrains from announcing any new one. As to the treatment, he says:—“Considering that most cases require rather stimulation than otherwise, I endeavour, in each individual case, to use the means of cure which appears best calculated to obviate the tendency to death; *in short, I treat symptoms.*” Blood-letting he only

mentions to condemn. Since the publication of Dr. Moore's book there has been a severe epidemic of cholera in India, during which many plans of treatment were tried.

The following table showing the results of 122 cases of cholera, treated in the Agra Central Prison, from 6th till 19th July, 1861, inclusive, by Dr. R. Playfair, may be interesting:—

	Ad- mitted	Died	Cured	Per centage of Deaths	Per centage of Cured
Usual Treatment, ...	58	26	32	44·82	55·18
Saline enemata in addition .	29	12	17	41·37	58·63
Stimulants and venesection, .	35	8	27	28·85	77·15

Dr. Playfair advocates stimulants and venesection; the latter to a very small amount, merely to relieve the circulation. The moment the blood flows it should be stopped, and the patient supported by stimulants and nourishment. We have never seen this tried; but Dr. Playfair's lowest per centage of cured, and highest per centage of deaths show a greater amount of success than we have ever seen attained in the treatment of cholera.

During this epidemic of 1861, 250 cases among Europeans came under our own observation, as follows:—

	Officers	Men	Women	Children	Total
Cases, ...	2	197	19	32	250
Deaths, ...	2	143	12	26	183

Being a per centage of deaths to treated of 73·2. Dr. Playfair's total per centage of deaths under each form of treatment is only 37·7; the higher rate of mortality is more in accordance with general experience in the treatment of cholera. There may have been some peculiarity of type among the cases treated by Dr. Playfair to account for the mortality in this dreadful disease being so much below the average; the mere fact that his observation only extended over a fortnight may account for this. We very much fear that future experience will yet show that no treatment for this disease has yet been discovered which will even approximate its mortality to that of a severe epidemic of typhus fever.

The size and price of Dr. Moore's book place it within the reach of all; and we feel assured that it will be found to be a useful addition to the necessarily small library of the junior Indian medical officer.

On the Nature, Causes, Variety, and Treatment of Bodily Deformities; in a Series of Lectures delivered at the City Orthopedic Hospital in the year 1852, and subsequently. By E. J. CHANCE, F.R.C.S.E., &c. In Two Parts. Part I. London: Lemare. 1862. Post 8vo., pp. 304.

On the Mechanical Appliances necessary for the Treatment of Deformities. By H. H. BIGG, Associate Inst C.E., &c. Part II. The Spine and Upper Extremities. London: Churchill. 1862. Post 8vo., pp. 303.

WE have here two works devoted to the consideration of deformities. That of Mr. Chance is the first part of a treatise intended to discuss not only the nature, causes, and variety of deformities, but also their treatment. The pathology and general doctrines are discussed in the present volume, which is complete in itself, the treatment being reserved for the following, which is announced as being in preparation. Mr. Bigg is an anatomical mechanist, and his book is devoted to the figuring and describing of the several mechanical appliances that may be made use of for the treatment of deformities. The present part completes the work, and describes the apparatus in use for deformities of the spine and upper extremities—the first having done the same for the lower extremities. It is evident that Mr. Bigg is not only a clever artist, but that he has spared no pains to arrive at a correct knowledge of the principles by which his mechanical skill should be guided. His book is well brought out, and profusely illustrated, and to those seeking for information on the subject will be found very useful.

Mr. Chance defines a deformity as being—

“An original or an acquired deviation in the *skeleton* from the standard of its ordinary healthy development; its component parts being either altered in number, in structure, in shape, in relative position, or in the freedom of their movements over each other, so as to modify and disfigure the external form of the body, or to interfere with the proper exercise of the functions of the part, or with those of the part adjacent.”

It is evident that this definition is too restricted, and that by making the idea of deformity depend on a deviation of the skeleton it excludes many deviations of the soft parts, such as, for example, simple hare-lip and imperforate anus, and many of the varieties of

ectopia, which are entitled to be placed under this head, even in a "surgical sense," as Mr. Chance expresses it.

The causes of deformities as thus defined are clearly exhibited by Mr. Chance in a tabular form. He divides them into the congenital and the acquired; the congenital including those affecting, first, the ovum, viz.:—*a*, error in the primary impulse of development, or originally existing in the ovum—*b*, hereditary influence—and *c*, mental emotion of the mother during pregnancy; second, appertaining to the embryo—*a*, arrest of development—*b*, mechanical injury or interference with the movements of the embryo; third, as affecting the fetus—*a*, mechanical injury or interference with its movements—and *b*, disease acting directly or indirectly on its skeleton.

The acquired deformities, or those arising after birth, may occur in the child or the adult, and are divided into those acting, first, directly on skeleton—rickets and scrofula; and, second, those acting indirectly—*a*, through the exciting cause of muscular action, as spasm and paralysis—*b*, disease or error of the muscle itself—*c*, mechanical impediments, as contraction of skin, fasciæ, or ligament—*d*, deficient support, as relaxation of fasciæ or ligaments.

This arrangement affords a sufficient foundation for a systematic disquisition on all the deformities coming under Mr. Chance's definition, that is, having an immediate connexion with the skeleton. Yet there are several species that he has either omitted to notice or only glanced at cursorily, such as congenital dislocations, which are of such practical importance, and for the elucidation of which the Dublin School has done so much. The deformities arising from adhesion of the embryo to the placenta, of which the late Dr. Montgomery recorded, in our own pages, some interesting examples, we find no where alluded to; and the important physiological questions that have been raised by Vrolik and Allen Thomson, as to the true nature of double monsters, whether they are produced by the union of two ova or are the result of an excess of development in a single ovum, though they might have fairly claimed a portion of the author's attention, are left unnoticed.

Though the work is then not as complete as we would wish, yet it is one that we believe to be well calculated to do good service. The subject of monstrosities has long been shrouded in mystery, and played with by poets rather than investigated by philosophers. The researches of St. Hilaire and Vrolik, of Montgomery and Allen Thomson, and others, have, however, of late raised Teratology into a science, and Mr. Chance, following in their footsteps,

and extending their researches, has used the science for the explanation of the various congenital deformities coming before him as surgeon to the Orthopedic Hospital, while for deformities acquired after birth he has applied to the more familiar doctrines of Pathology, and by thus giving a rational explanation of the nature and causes of both classes, has laid the foundation for their successful treatment.

Of the causes enumerated as acting on the ovum to produce deformity, Mr. Chance has proved the reality of the first two that he assigned, viz.:—error in the primary impulse of development, or originally existing in the ovum, and hereditary influence—and illustrated their operation by many curious examples derived from both the vegetable and animal kingdoms generally, as well as from human subjects, but as to mental emotion of the mother during pregnancy, he utterly disbelieves in its having any influence, and shows that the cases that have been most recently adduced as proving its effect are quite inconclusive. He argues that the resemblance of the deformity to the assigned cause is so imperfect as to require a stretch of imagination to discover it, while the blemish exactly corresponds to that observed in other cases in which there has been no fright; that there is proof by analogy with the egg of the bird, that when once development has commenced the embryo is placed completely out of the range of the mental influence of the parent; that as the impregnated ovum is at first an isolated vesicle, moving about from spot to spot in the uterus, and having no connexion with it, and is afterwards connected with it only by the cord, in which there are not any nerves, and even the vessels of which are not continuous with those of the mother, there is no channel through which a mental impression of the mother could affect the embryo. Mr. Chance further shows that in an immense majority of the cases stated to be the result of fright, &c., the time of the occurrence assigned as the cause of the deformity in no way corresponds with the period at which it is now well known, from physiological investigation, that the deformity first originated.

We have now done enough to show the tendency and scope of the works before us, but we cannot quit this subject of the influence of mental emotion of the mother on her offspring without expressing our full concurrence with Mr. Chance in the belief that while the action of the exciting or depressing passions, such as excessive anger, joy, fear, grief, &c., may indirectly injure the fetus in utero

by exciting disease in the mother, for example—inflammation of the womb—and thereby giving rise to congestion and inflammation of the placenta, or even to disease and death of the fetus itself, yet the influence of such passions cannot give rise to any action in the mother which is capable of removing or altering the form or structure of a part of the fetus after it is once developed, either by causing its entire absorption, or by inducing an excess, irregularity, or arrest of development, so as to impress on the fetus in any degree the resemblance of the object by which the mental emotion was excited.

The illustrations of Mr. Chance's book, which are numerous, have, for the most part, been drawn and engraved by himself, from original casts in his possession. His work displays much learning, great research, and, by placing our knowledge of deformities on a thoroughly sound physiological basis, is fitted to be of great service to practising surgeons.

Manuel d'Anatomie Chirurgicale, Générale et Topographique. Par A. VELPEAU et B. J. BERAUD. Deuxième Edition, entièrement refondue. Paris: Germer Baillière. 1862. Fcap. 8vo, pp. 660.

Manual of Surgical Anatomy, General and Regional. By A. VELPEAU and B. J. BERAUD. Second Edition. pp. 660. Paris: Germer Baillière.

IN sending forth the long-looked-for new edition of his admirable treatise on Surgical Anatomy the Veteran of "La Charité" explains the reason of the association of his name with that of M. Beraud with all the simplicity characteristic of the true champion of science.

Distracted from anatomical pursuits, as he tells us in his preface, by occupations of a somewhat different nature, it became an impossibility for him to bring up his treatise to the exact level of the present time without the aid of some one more youthful than himself, and intimately versed in the modern fruitful researches in the subject. Under these circumstances M. Velpeau availed himself of the invaluable assistance of M. Beraud, who is already favourably known to the profession as a distinguished anatomist and accomplished surgeon.

We cannot express sufficiently warmly the admiration we feel for the disinterested love of science which has actuated M. Velpeau to expend his precious time in reproducing his Surgical Anatomy, as well as for the courage and industry displayed by M. Beraud in devoting his talents to remodelling and perfecting the edition of 1837. Such example is surely worthy of imitation, and, if only followed up, would lead to the preservation, and dissemination among the junior members of the profession, of the priceless experience of its elders. The work before us is worthy of its authors, and, although by no means voluminous, may be placed in the front rank of the literature of its kind. The system of arrangement adopted is simple and rational. The first hundred and fifty pages are devoted to general anatomy, and the remainder of the work to the description of the several regions of the body. The prefatory portion, or that consisting of general considerations on the structure, functions, and practical relations of systems and tissues, is executed with clearness, brevity, and yet all requisite detail.

The brief limits of a review preclude the possibility of our laying before our readers even a moderate quotation, as a specimen, from the original; so we shall content ourselves by instancing the manner in which each important subject is considered.

For example:—*The integumentary system* is divided into the *skin* and *mucous membranes*, and each of these is separately described. The skin is defined as the external covering of the body, which, by its property of touch, places man in relation with outward objects, and, by its capacity of resistance, protects him from injurious contact with them. Its liability to disease as well as to injury, both accidental and designed, is pointed out; and its interest to the surgeon deduced therefrom. Its further description is carried out under numerous headings, viz.:—Its external or free surface—its deep or attached aspect—its colour—pliability—elasticity—retractility—contractility—sensibility. Next are detailed its structure and mode of vascular and nervous supply; and finally, its appendages—glands, hair, and nails—are disposed of. During its consideration under each of these heads its relations to the diagnosis and treatment of disease are simply and judiciously pointed out.

The study of the skin concluded, that of mucous membranes follows. Then other systems are in like manner treated:—Serous, fibrous, muscular, osseous, articular, glandular, vascular, and nervous. We feel no hesitation in stating that the conception and execution of this portion of the work is quite masterly, and brings

the whole up to the last point of modern research. Those truthful generalizations from multitudinous observations, which belong to age and experience alone, are here incorporated with that refined knowledge of structures and functions which modern times have achieved, and the whole is placed before the reader in a most intelligible form, and in the simplest language.

The second portion of the work, or Regional Anatomy, is in no wise inferior to that which introduces it. We are struck at once with the improvement in the method of defining the regions of the body, as compared with the old edition of M. Velpeau's treatise. The want of clearness and simplicity in this particular was a great blot on the former edition, and we are pleased to see it mended in the present one.

Probably we shall succeed best in giving our readers an insight into the style of this portion of the work, by detailing the manner in which a region is treated. For example; the cranium is divided into the following regions, viz.:—1st, frontal; 2nd, parietal; 3rd, occipital; 4th, mastoid; 5th, temporal; and 6th, the base of the cranium. Each of these localities is then separately undertaken and examined. Let us select, as an illustration, the frontal region. First it is defined; then its situation, limits, extent, direction, and external conformation are described. Then its dissection, from the surface to the bone, is gone through in due order; commencing with the skin, proceeding to the subcutaneous areolar tissue, muscular and aponeurotic structures, periosteum and osseous skeleton. The arteries, veins, nerves, and absorbents, encountered in the dissection are fully described; and the analysis of the region is wound up by a *résumé* of the parts, enumerated in the order in which they are met, and a brief description of their mode of development. A vast body of practical information is incorporated with this anatomical demonstration, and all salient points of interest connected with the space are discussed. The method in which the various important regions and organs of the body are treated is similar throughout the book, and consequently the subdivision of each topic, being like to that of others, helps the memory, in place of embarrassing it, as we too often find the usually exaggerated classification of the French writers to do. It is unnecessary to prolong our review of this manual. We have said enough, we trust, to make others value it (which we do ourselves) as one of the most concise and perfect treatises on the subject. It is needless for us to remark that it is not intended nor suited for the junior student,

who requires rigidly systematic descriptions; but the advanced anatomist may learn from it the real value of his knowledge, and better still, the use to which he may turn that knowledge.

Of latter days it has become the fashion—and we confess, in our opinion wisely—to illustrate anatomical works: hence we were at first surprised that no such attempt is made in the manual of Velpeau and Beraud. However, the publisher, M. Baillière, in his notice at the commencement of the book, has satisfied our minds upon this subject. Anatomical preparations were actually made for the purpose by M. Beraud, and drawings from them executed by M. Bion; but, as the great reduction in size, requisite to adapt them to the present manual, would have seriously impaired their practical value, it has been arranged to publish them in a separate atlas, of suitable dimensions, which may form a companion to the various works on surgical anatomy. We look forward with great expectations to the appearance of such an atlas, which has long been a desideratum; and we shall conclude by remarking, that, if it keeps pace with the work we have just laid down, its author will be fairly entitled to the enduring gratitude of the profession.

The Pathology and Treatment of Venereal Diseases, including the results of recent investigations upon this subject. By FREEMAN J. BUMSTEAD, M.D., with illustrations on wood. Blanchard and Lee, Philadelphia. 8vo, pp. 686. 1861.

WERE we to act simply in obedience to our wishes, our review of this work would consist but of these few words—"Reader, buy and study the work." Many years have past since we met with a work so fully written up to the state of our knowledge of the subjects discussed in it, as this by Dr. Bumstead. However, as our readers might not be satisfied to take its merits on our mere *ipse dixit*, we shall endeavour to give them an insight into the manner in which Dr. Bumstead has discharged his task, and the order adopted by him in treating of subjects confessedly amongst the most intricate and obscure in our art.

In his preface, Dr. Bumstead announces that, the object of his labours is to furnish the student with a full and comprehensive treatise upon Venereal Diseases, and the practitioner with a plain

and practical guide to their treatment. In carrying out this design, theoretical discussions have been made subordinate to practical details, and in the belief, that the success of treatment depends quite as much upon the manner of its execution, as upon the general principles upon which it is based, no minutiae calculated to assist the surgeon or benefit the patient have been regarded as unworthy of notice: and in the body of his work he accordingly carries into execution the promises there held forth to his readers; no detail appears to him too insignificant to be recorded: the result of which is, that the young and inexperienced practitioner is put on a level with his more experienced brother, and thus enabled to put into practice from the start those all-important though seemingly minor manœuvres that make so marked the difference in practice between the tyro and the veteran, giving the latter such vast advantage over the former in conducting his case to a successful termination. Were we required to furnish instances of this, we would, amongst others, refer to Dr. Bumstead's valuable practical suggestions as to the manner in which injections should be administered in gonorrhea, suggestions long since familiar to the experienced surgeon, and yet but too frequently neglected by him just entering on the practice of his profession; attention to which, however, will make all the difference to the patient, so far as a more rapid cure be concerned; and to the surgeon, so far as his reputation as a successful practitioner in this department of his profession is involved.

In this commendation, however, we regret to say that we cannot include his directions for the introduction of mercury into the system by inunction; these appear to have been copied from Sigmund, but high though his authority be, they do not come up to our views as to the manner in which this proceeding should be conducted, nor does Dr. Bumstead enter sufficiently minutely into this most important division of his subject: for instance, he makes no mention of the absolute necessity, that for many reasons exists, why, during such treatment, patients should wear drawers, nor do we approve of the frequent change of clothes recommended by him during the course; in our opinion, such being attended with the disadvantage of retarding the patient being brought under the influence of the mercury, and although it may appear repugnant to our notions of cleanliness to continue wearing the same pair of drawers for so long a period, still such a course undoubtedly expedites the reduction of the patient under the influence of the mercury, inasmuch as it keeps him as it were in a constant mercurial

bath, the friction of the drawers perfecting the absorption of that portion of the ointment which has escaped absorption in the process of hand rubbing; and to the suggestion of daily ablution, as recommended by Dr. Bumstead, we beg leave to record our unqualified veto. These blemishes, however, are but as spots on the sun when we take into consideration the able manner in which Dr. Bumstead has otherwise discharged himself of his task.

The introduction to his work is devoted to the consideration of the origin of the syphilitic disease, and in it we get much interesting information, not perhaps, of so novel a character as it is pleasing, from the easy manner in which it is written; this, however interesting though it may be to those curious in such studies, we shall pass by without further notice, as, in our opinion, this is a *questio vexata*, the solution of which can never be attended with any practical importance. The body of the work is divided into two parts: the first of which is devoted to the study of gonorrhea, its sequel and complications, including stricture; in this section, under the head of treatment, Mr. Bernard Holt's plan is disposed of in some half dozen lines, which do not even profess to describe this gentleman's mode of procedure; this, in a work put forward as an epitome of our present state of surgical practice, is unjust. Mr. Holt's method is still *sub judice*, and if but half the success that attended it in the hands of its gifted originator, await other practitioners in its use, the treatment of stricture will have been revolutionized in modern times.

The second section is devoted to the consideration of the chancre, its complications, and of syphilis; in this we find an able *resumé*, given in as condensed a manner as is compatible with intelligibility, of our present state of knowledge on these subjects. Much interesting matter is quoted for our information from the valuable writings of M. Bassereau, one of the most distinguished pupils that have emanated from the school of M. Ricord, and though some views perhaps are put forward in the sustainment of which our author might experience some difficulty, still, on the whole, we must state that considerable information, judgment, and ability have been displayed in the manner in which the entire of this most difficult subject has been handled. In conclusion, we have but to repeat our recommendation of this work to the notice of all who desire to make themselves thoroughly up on this most important branch of our profession.

Traité Pratique de Médecine Légale. Par J. L. CASPER, Professeur de Médecine Légale à l'Université de Berlin, &c., &c. Traduit de l'Allemand. Par G. G. Bailliére.

A Practical Treatise on Forensic Medicine. By J. L. CASPER, Professor of Forensic Medicine in the University of Berlin, &c., &c. Translated from the German, by G. G. Bailliére. 2 Vols. Pp. 1,047. Paris: G. Bailliére.

THE work before us is a French translation of Professor Casper's most valuable treatise on forensic medicine—for an English translation of which the medical profession in these islands is indebted to the New Sydenham Society. The estimation in which this work is held in Europe is significantly expressed by the fact that it has gone already through three German editions, while a fourth is in preparation—and that it has been translated into Italian, French, Dutch, and finally into English. The author informs us in the preface that he has endeavoured to purify his present work from all the “irrelevant rubbish” which had accumulated in previous works forensic medicine; that the contents of it are all derived from his own observations, and that rather than blindly copy what others on have declared before him, he has preferred frankly to confess his inability when his own experience has failed him in resolving some doubtful question. He tells us also that he has not devoted a great portion of his work, as most authors have done, to the consideration of medico-legal chemistry, as occasions for its application are, on the one hand, proportionally unfrequent, while on the other hand the German laws require, on such occasions, the intervention of *special* experts; and we consequently find, that out of 1,047 pages, contained in the two volumes, only 56 are appropriated to the consideration of poisons and their effects. Professor Casper's book will never, therefore, supersede the important works of A. S. Taylor; and by itself would always be of less value than *Taylor's Medical Jurisprudence*, because less comprehensive. We do not wish, however, to detract from the intrinsic merits of the work before us; the chapter on wounds—those on mental aberrations and individual responsibility, as well as those bearing on infanticide and abortion, are most interesting and important. Each chapter is headed by copious extracts, in the manner of aphorisms, from the Prussian Code of Laws, as the following, for instance, which is placed at the

commencement of the chapter on induced abortion:—"Pruss. Penal Code, Section 181. A woman who, being pregnant, shall induce abortion, either by external or internal means, or who shall destroy her offspring (*dans son sein*) in utero, shall be sentenced to penal servitude for a term of not less than five, nor exceeding 20 years; and any person who shall have aided and abetted such pregnant woman, either by suggesting the way, or supplying her with the means of procuring abortion, shall receive a similar sentence.

Ibid, "Section 182. Whosoever shall cause the abortion of a pregnant woman, without her consent, or shall have caused the death of her offspring, in utero, shall undergo penal servitude for a term of not less than five, nor more than 20 years. If the induced abortion should, however, cause the death of the woman, sentence of penal servitude for life shall be passed."

Such extracts are very superfluous for the medical jurist in these realms, even supposing that they correctly expressed the spirit of our own laws. The medical jurist at a trial in these countries has nothing to say to the application of the law, and the administration of justice; he is simply there in the capacity of an *expert*, to give his opinion on the case in question, and to aid the jurors in arriving at a correct verdict; the application of the law bearing on the case rests solely with the judge who tries it.

The work is divided into two portions, each contained in a separate volume, and named respectively the Biological and Thanatological section. The first relates to all those conditions which may become the subject of medico-legal inquiry during the life of the individual; the second relates to similar conditions after death. In the biological section are contained numerous examples of medico-legal investigation which would scarcely ever come under the consideration of a medical jurist in these countries. At page 12, of Vol. I., for instance, are to be found directions for the purpose of ascertaining whether a person condemned to imprisonment for debt is in such a state of health that imprisonment shall not endanger his life. Also, whether his state of health is such as might cause worry and annoyance to the other prisoners;^a and cites as an example the case of a horsedealer who was subject to prolapsus recti at each defecation, and where, in consequence of hemorrhoidal tumours the bowel could not be returned without difficulty and assistance. The

^a Si le malade est dans un état tel, qu'il soit pour les autres détenus, un sujet de tourment.

author adds, with great *naïveté*:—"It could not be expected from the other prisoners that they should perform this operation for him."

At page 40 commences the chapter on "Aptitude to Reproduction," headed like the others by extracts from the Prussian laws; and we were not a little startled by reading of the several causes which can justify a divorce in Prussia. Section 695 of the General Code of Laws says:—"If either husband or wife, singly or independently, shall voluntarily prevent conception, either during the act or after its accomplishment, and thus defeat the legal ends of marriage, it will be a sufficient reason for obtaining a divorce by the other party."

"Section 696.—Complete and incurable impotence—even if only arisen since the marriage contract—will equally give a right to divorce."

The chapters on "Loss of Virginity," violation, and sodomy, extending from page 72 to page 131, inclusive, are full of instruction and interest, but we prefer sending the reader to the original work for information rather than supply him with extracts.

The Prussian code of laws is evidently sceptic on the subject of very prolonged gestations, for we find at the head of Section 2, on pregnancy, the following extract:—"Civil Code, Art. 315. The legitimacy of a child born 300 days after dissolution of a marriage may be contested." Professor Casper, at page 152, says that although pregnancy may be protracted to 300 days, "those longer periods of 11, 12, and 13 months which have been cited are not deserving of any belief. In Great Britain the law has not fixed a limit to the period of utero-gestation; and in America a case was tried, in 1846, where a child born 313 days after legitimate intercourse, was declared not to be a bastard.

A large portion (nearly 200 pages) of Vol. I. is devoted to the consideration of modern legal questions in relation to mental alienation. This is one of the most important sections of the work; but the limits of this review forbid our entering into it as freely as it deserves; and a few extracts would not convey any adequate idea of its merits; we, therefore, again address our readers to the original, which, thanks to the New Sydenham Society, is now within reach of every one.

Having now finished with the Biological Section of this important work, we commence the second volume, or the Thanatological Section. The first 100 pages are occupied with the consideration of the several signs of death; of the object and mode of conducting

post mortem examinations; of the appearances presented by dead bodies at different periods after death, and after being exposed to different conditions—such as buried in the earth, exposed to the air, or submerged under water, and in cesspools and privies. On the appearance of wounds—clean cut, or contused; whether inflicted before or after death; followed by several interesting cases of severe internal injury, unaccompanied by any external visible lesion. The author then passes to the consideration of blood-stains, and the mode of determining them; dwelling on the great difficulty of distinguishing, even by aid of the microscope, between human blood and that of other mammalia.

At page 162, Vol. II., are to be found several important directions as to the making of cadaveric sections; and our author commences by recommending that in all examinations of newborn infants the abdomen should be the first cavity opened, as in these cases it is of great importance to examine the condition of the diaphragm before opening the thorax. The author recommends, also, that in examining the base of the cranium, “one must be careful not to omit peeling off the periosteum, otherwise the presence of minute fissures of the bone may be passed over undetected.” In the section of the work devoted to burns, the question of spontaneous combustion is ably discussed, and finally consigned to the realms of fiction and romance.

At page 256 is a very interesting case of a man condemned to seven years penal servitude, who determined to commit suicide by starvation. He had been abstaining from food for five days when Professor Casper was consulted about his case. He says:—“I approved of the measures which had been taken, and which consisted in placing him in the same room with two other prisoners, condemned for short periods only, and whose business it was to constantle watch the prisoner, and prevent him from committing suicide.” If we had not this information from so trustworthy a writer we would at once disbelieve it; and even as it is we find considerable difficulty in reconciling this statement with the well-known state of civilisation in Prussia. Here was a man in a state of mental alienation trying to commit suicide; and, instead of placing him in the infirmary of the prison, under the watch of a paid official, he is intrusted to the care of his co-prisoners. But let us proceed, for the sequel is even stranger:—“I found him lying on some straw (!). He had tasted absolutely nothing for five times 24 hours. He was pale; but not more so than those others

who had been imprisoned as long as himself. His features were somewhat drawn; his eyes were rather dull; the temperature of his body was normal. . . . His head was clear. . . . He told me he suffered neither from hunger nor from thirst. He passed very little urine, and no stools. All my exhortations failed in changing his determination—he persisted in refusing both nourishment and medicine.” What the idea was of suggesting medicine we cannot tell. On the following day, however, the ingenious physician of the establishment succeeded in making the would-be suicide take a few drops of ether!! He had now been seven days and nights without food or drink. “He had grown thin; he tried to read his Bible, but could not, being troubled with flashes of light before his eyes, and incessant buzzing in his ears. His tongue was dry and purple in the middle, whilst on the edges it was covered with a viscid mucus.” The eighth day came and went, and the physicians did nothing to avert impending death; the ninth day came, and also the tenth, and still no food entered his mouth, nor did his physicians exert themselves beyond tempting him with a little *ether*—when suddenly, on the eleventh day, hunger seized him, he ate, and saved his own life. Are we to infer from this extraordinary account that lunatics who, in Civilised Prussia, refuse to eat, are allowed to die of inanition?—that the use of the stomach-pump, in such cases, is unknown? Or are we, rather, to gather, that from a love of scientific research this wretched man was allowed to starve himself in order to see how long a man could possibly live on without food? In either case the answer must be unsatisfactory:—Ignorance, in the first case; attempt at murder in the second. It is an ill wind, however, that blows nobody good! and we find recorded, for the advancement of science, that a man can live without food for 11 days, without much danger; that he only feels hunger during the first three; and that the urine he passes during his abstinence contains the full proportion of urea.

We could considerably prolong our examination of this work if time and space did not forbid us; but we must draw to a conclusion, and refer to the original, or one of its many translations, those of our readers who desire to see what Professor Casper has to say on toxicology, asphyxia, hanging and strangulation, drowning and death by chloroform—upon all which subjects the student of forensic medicine will find abundant and interesting information in the two ample volumes we have been reading.

The Autobiography and Services of Sir James M'Grigor, Bart., late Director-General of the Army Medical Department. With an Appendix of Notes and Original Correspondence. London: Longmans. 1861. Post 8vo, pp. 418.

Memoir of Baron Larrey, Surgeon-in-Chief of the Grande Armée. From the French. London: Renshaw. 1861. Post 8vo, pp. 256.

THERE is a peculiar appropriateness in bringing together the memoirs whose titles stand at the head of this article. The subjects of them were contemporaries. Born within a few years of each other, they entered into the service of rival armies at about the same period, where, by their zealous labours in the promotion of medical science, and their devotion and energy in the management of their departments, they not only acquired for themselves the esteem and highest commendations of their respective Generals, but succeeded in alleviating, in a great measure, the horrors of war. Thus honoured and distinguished, they serve as prominent and instructive beacons, to guide and encourage all entering on the same career, as that in which they so eminently distinguished themselves.

Sir James M'Grigor, born in 1770, was the eldest son of Colquhoun M'Grigor, a merchant in Aberdeen; he was educated in the High School of his native city, and here acquired his first honour, in having, at an examination at the conclusion of his five years' course, the first prize awarded to him, in the presence of the Lord Provost, Magistrates, the Professors of the University, and the Clergy of the City, an event, as he often afterwards recounted, the most joyous of his whole life, and which filled his breast with more pride than did any of the many honours he received in after years.

From the High School he entered Marischal College, where he graduated as a master of arts. His father now wished him to follow his own avocations, and succeed him as a general merchant, but the companionship of students and his own inclinations led him to prefer entering on the study of medicine, and his parents did not baulk his choice. For a time he studied at Aberdeen, then went to Edinburgh, where he was elected a member of the Medical Society, and on his return to Aberdeen at the end of the session in 1789, he, in concert with a fellow student, Dr. Robertson, laid before a

meeting of the students, the plan of a medical Society for that city. In this society, which now takes a considerable place in the literary institutions of Aberdeen, he never ceased to take a warm interest, having, by his own subscriptions and donations of books, and by continued warm importunities of his numerous friends, obtained no small portion of the funds required for the erection of the handsome building it now possesses, and which contains its valuable library, museum, &c.

Having completed his studies at Edinburgh, it was determined that he should become a general practitioner in London, and he proceeded thither in 1793 with that intention. By this time the war of the revolution commenced against France, and he determined on serving as a medical officer in the army. He accordingly negotiated through Mr. Greenwood, of the Army Agency House of Cox and Greenwood, for the purchase of a surgeoncy in a regiment (the 88th or Connaught Rangers) then being raised by General De Burgh, afterwards Earl of Clanricarde; but having heard that it would be an Irish regiment, he objected to enter it, till urged to do so by Mr. Greenwood, on the grounds that "Scotchmen would soon make their way in an English or Irish regiment, but in one of their own corps there were too many of them together, and they stand in the way of each other." But, though merely *Irish*, with the exception of their Scotch surgeon and an English major, Sir James soon saw reason to believe "there never was a finer set of young men, with more the appearance of being the sons of gentlemen, congregated in any corps in his Majesty's service,"—a circumstance which, along with the events that followed within a few days of his joining the regiment, might well have induced him to forego recording in his autobiography this piece of silly clannish boastfulness.

In 1794 his regiment went to Jersey. The French revolution was now at its most bloody point, Robespierre was in full sway, and the island teemed with French exiles. Every day boats arrived with fugitives, each boat bringing accounts of fresh victims to the guillotine—frequently the husbands, brothers, fathers, or sisters of some of the unfortunate refugees who watched the arrivals from France; but though the grief of many of these was great, its duration was not always excessive, as the following anecdote will show:—

"I remember a pretty, engaging Frenchwoman; one of the numerous female refugees whom we had in the island at that time, a Marquise, who

was in the society of the officers' ladies of the Connaught Rangers or 88th regiment. One of the boats which arrived from Granville, among other accounts of a deplorable nature, brought that of the death of this lady's husband, who had fallen by the guillotine. On first hearing the sad tidings, the grief of the Marquise was excessive; she was inconsolable. The ladies of our officers, uninvited, went to her lodging; and some of them remained constantly with her. At this time the Lieutenant-Governor was about to give a grand ball to all the fashionables of the island, to the military, and to the chief of the French refugees. Some time before receiving the account of her husband having been guillotined, the Marquise had received a card of invitation from the Governor, and had accepted the invitation. She not a little astonished the ladies who visited her for consolation, by asking them on the third day after she had received accounts of the Marquis being guillotined, 'if it would be proper for her to go to the Governor's ball in mourning.'"

Soon after arriving in Jersey the regiment suffered severely from typhus, that plague of armies, from which, in the first year of the war, the English army lost many thousands. After some time Sir James was himself prostrated by it, and nearly became one of its victims. From this his convalescence was slow, but was marked by a pleasant incident, showing how even the common soldier can appreciate the services of the kind and efficient medical officer. It was determined to move him into the country, but a difficulty arose as to how he should be removed, his debility was so extreme. The soldiers hearing this, said they could carry him much more easily than he could be drawn, and expressed so much solicitude to carry "the doctor," that their plan was acceded to, when they exerted themselves to the utmost, to carry him with the greatest ease to himself.

From Jersey the regiment proceeded to Ostend, to take part in the Dutch campaign of 1794, so disastrous to the British. On the voyage they were becalmed, when a series of visitings took place between the several vessels, and Sir James had again a narrow escape, one of the ships in which he was visiting having been set on fire by the carelessness of a sleepy sailor, when a scene of the greatest confusion and disorder ensued. After rather a long passage they went up the Scheldt to Bergen-op-Zoom, where the typhus again broke out with increased violence, affecting not only the 88th but the other British regiment stationed there. The havoc amongst them was great; every place that could be obtained through the magistrates was occupied for the accommodation of the daily over-

whelming increase of sick. But even so, the space was sadly deficient. At length Sir James, determined to provide for his sick, took the matter into his own hands, with a degree of energy and self-reliance that, in these days of routine and shrinking from responsibility, we cannot but admire, notwithstanding his having been haunted in consequence.

“One day, I espied a Calvinistic chapel; I then got a sergeant’s guard, and while the congregation were engaged in the afternoon service, made the sergeant place two sentries at each door. When the congregation dispersed, we took possession of the church. The minister, a very aged man, with his elders, first remonstrated with me, then entreated; and at length in great wrath denounced my proceedings. After this our sickness increased; our mortality was frightful; and both myself and my only assistant Mr. Nicol became severely ill: and when ill, I could not get the aged clergyman, with his snow-white locks and imploring attitude, from before my eyes.”

Those who wish to know something of the sufferings of an army obliged to retire before a closely pursuing enemy, through a country whose inhabitants have been enraged by the bad treatment they have experienced at the hands of their would-be allies, may in these pages find a picture of them such as more pretentious historians fail to supply.

Arrived in England, after the retreat from Holland, the regiment was sent, along with several others, to Norwich, where the turbulent state of the population, and the prevalence of the revolutionary feeling which had found its way from France into England, rendered the presence of a large garrison necessary. Again typhus made its appearance, rendering necessary special arrangements for meeting it, and Sir James was appointed superintendent, an office he continued to hold till the regiment was ordered to march to Southampton to form part of an expedition, under General Abercrombie, for the capture of the French West India Islands. The 88th was now under a new commanding officer, Lieutenant-Colonel, afterwards Field-Marshal Beresford, and the first contact of Sir James with him was not of the pleasantest, but his firmness and the faithful discharge of his duty brought him triumphantly through the crisis:

“With the constant arrival of recruits, not in the cleanest state, accompanied with numerous families, I saw the probability of the re-appearance of an old enemy—the typhus—from the habitual drunkenness

and other irregularities of the men. There was much fever prevalent, which I foresaw would degenerate into typhus, and I did everything to keep the hospital sweet and well ventilated. I think that I succeeded, for its clean and cheerful appearance attracted the notice of all the officers.

“From the hour the new Colonel arrived to take the command of the regiment, his temper appeared bitter, and his conduct harsh; he was perhaps dissatisfied with the state in which he found the regiment. On his arrival, he found the hospital full, and many sick in barracks. By his order, I waited upon him every morning with a report of the sick of the corps. He was always discontented with it. One morning, when I found the Adjutant and Quartermaster of the regiment with him, he appeared unusually out of humour. He neither noticed the bow I made on my entrance, nor desired me to be seated. After remaining standing for a few minutes, I helped myself to a chair, and sat down. Soon after, he took the sick report out of my hand, and perusing it, said, ‘This state of things must not continue; I will not have such a number of sick in my regiment, and I am sure the greater part of them are not sick.’ I felt strongly at that moment the contrast between him and my former commanding officer. I was much moved, and said in reply, that ‘it was not my fault there were so many sick in the 88th regiment; all I could do, was to cure them as fast as I could;’ and, as to not one half of them being sick, I affirmed that every one in the report in his hand, was sick. In the sharpest manner, and with an oath, he said they could not be; and that malingerers deceived me. I, as positively, and in warm terms, denied this; and I added, that so long as the regiment continued in its present state, the sick would increase, and they would soon be doubled. He asked what I meant. I said that the irregularities which prevailed would occasion an increase, and from the filthy state of the temporary barracks, which at the same time were not weather proof, they were a nursery for disease. He desired me to make good my words; and, hurrying out with the Quartermaster and Adjutant, he went through all the barracks, cooking-houses, &c., making a minute survey of each, loudly and angrily calling as he passed through each, for the officers of each company; and giving no small portion of abuse to most of them, for not having strictly reported the state of things. When, after two hours of this unpleasant duty, he had gone through the whole, I begged that he would now accompany me, and see the only place over which I had jurisdiction—the hospital. He passed in silence through the different wards, but this I felt I could not permit; I called upon him to say if he found fault with the condition of things here. He confessed he could not. He did more; for when he went out, he desired the officers commanding companies to go in, as he had done, and view the comfort

men could be placed in, and mark the contrast. Still he did not express himself satisfied, and I fancy he felt my discontented, cool manner towards him; and on the following day, when the regiment was on parade, he sent a sergeant for me. I was at the hospital, and proceeded to him immediately. In the front of the regiment, he demanded the reason why I chose to absent myself from parade. I told him there was an assistant-surgeon present, and that I was employed in what I considered more important duty, viz., attending the sick in hospital; which duty occupied me some hours morning and evening, and, further, that the rest of the day was occupied in visiting the numerous sick in barracks, viz., the women, children, and officers. He told me it was his order that the surgeon should always be present at parade. I bowed obedience.

"Seeing the different kind of life I was likely to lead under such a man, I determined in my own mind to quit the regiment; and with this view I wrote to Mr. Macdonald, our agent, to procure an exchange for me into any other corps; and that, to accomplish this, I was ready to pay a moderate sum of money to any officer who would exchange with me.

"About this time, my brother, then a lieutenant in the 90th regiment, who had just landed at Portsmouth from America, came to visit me. He was most kindly received by my friends, the officers, and was my guest at the mess. To him, as well as to some officers of the corps, I had communicated my determination to leave the regiment. The officers all warmly regretted the decision I had come to; but as the circumstances which led to it were generally known, they could say little to dissuade me. At any rate my resolution was taken. A few days after my brother had joined me, when the officers were walking and talking together, before parade, the Colonel called me to him and I joined him in his walk. He observed: 'Your brother is a very fine young man, and I should much like to have him in the regiment. I am sure, that will gratify you, and I shall be happy to do anything to afford you pleasure.' I thanked him; but said that would not gratify me, for I was about to quit the regiment. He appeared struck; and with surprise said, 'he hoped not.' I told him that I was now in negotiation, through the agent, to exchange into another corps. He asked what regiment? I replied, 'I did not know, and did not care; any regiment; for I was sure my exertions would be better appreciated in any other; and that I was sure he must know I could not but feel what had passed since he had assumed the command of the 88th.' Nothing further passed; but in an hour or two after he sent for me to his quarters, took me by the hand on entering, and expressed his sorrow, if, in the dissatisfaction he felt at the state in which he found the corps on his joining, he had spoken warmly to me, for that really my department of it was the only one of which he could

say anything favourable, and that he had so reported to the Horse Guards. In short we became friends, warm friends, and continued so ever after."

By some strange misadventure, Sir James got separated from his regiment, and was carried off to Barbadoes, where he arrived long before the remainder of the expedition, the ship in which he was to have sailed having, in the meantime, been captured by the French. He was appointed to hospital duty, till the arrival of his regiment, and the commencement of active services, when he was put in orders as head of the medical staff, and before long was brought under fire, a fire hot enough to satisfy the longings of even "combatant" officers, to say nothing of a "non-combatant." In an attack on a strong position the party pushed past a body of the enemy unawares, and got almost completely surrounded, so that a retreat became necessary.

"Major Houston endeavoured to bring off our men, and retreat in order; but this was impossible. As the men fell, or were wounded, the latter were brought to me under a tree. While employed in dressing their wounds, the situation being rather an exposed one, a gun was opened on it, and one shot killed two of the wounded close to where I stood. I felt something moist on my face. At the same time that I observed the two poor fellows dead, and terribly mangled close to me, a sergeant came up to me, and taking me by the arm, told me I was wounded; and he would assist in placing me on the grass. I said, I believed I was not wounded, but as he insisted, I was placed on the ground, where on rubbing my face, I found it covered with the blood and part of the brains of one of the poor fellows near me; and getting up, I convinced the sergeant that I was not wounded. In a very little time after this I found the men and officers in rapid retreat, and passing me. I lost no time in joining them, and I confess I never made better use of my legs. At one part of the road which we had to pass at an angle, the enemy poured in several volleys upon us, and many men fell. I was then close to Lieutenant Mc——, now Major-General Mc——, and I never saw a hotter fire. The bullets absolutely tore up the ground close to us on each side, and even between our legs; how we escaped was to me a miracle. At length another corps, I believe the 29th, came to our support, and checked the pursuit of the enemy. We then re-formed, and finally our little army, commanded by General Nicolls, beat back the enemy, and dispossessed them of all the ground they had gained from us, bringing them back to their own position."

The capture of the French possessions in the West India Islands

being completed, the detachment of the 88th were soon ordered home, and sailed in a crank old transport, far from seaworthy, short of provisions, and badly manned. The captain died from yellow fever before they sailed, and the mate soon afterwards, when the second mate took the command of the vessel, and he, it appears, proved not only grossly ignorant of navigation, but also grossly intemperate. After undergoing many hair-breadth 'scapes, it was determined to depose this worthy, and as among the officers there was one who, before entering the army, had served for some years as a midshipman in the navy, the command of the ship was conferred on him. His knowledge of the sailing art was not, however, very profound, for, notwithstanding that he took daily observations with all the externals of a skipper on him, they found from a vessel that they spoke that they were close to Liverpool, when he had declared they were in the Downs. Putting about, on this intimation, they next found themselves at Cork, where they landed, and spent several weeks, after which they sailed for Portsmouth, where they were at once placed in quarantine, the authorities ridiculously forgetting, Sir James says, that they had been several weeks in Cork, and ignorant of the fact that several of the officers had been on shore during the night.

They were not permitted to remain long in England, but were ordered off to India, embarking at Portsmouth on Christmas-day, 1798. On his arrival in Bombay, Sir James found that his position in point of emolument was a very comfortable one, and hereupon he indulges in a strain of reflection on the position of medical officers in the army. Breaking through the chronological order he has been following in his autobiography, he records, in the following words, the conclusions at which he had arrived as the result of his mature experience as Head of the Medical Department of the Army. In the present day, when the Authorities have been so weak as to yield to the impertinent jealousies of the so-called combatant officers so far as to violate the compact entered into by the warrant of 1858, it is fortunate to have this announcement of the views of one so wise, so experienced, and so highly esteemed as Sir James M'Grigor. A violation, the blind fatuity of which, in the face of the experience of the revolutionary war, and the Crimean campaign, cannot be accounted for:—

“I found, as I was led to expect, that when the regiment was collected together, my situation in point of emolument would be a very comfortable one; and in truth, considering the drudgery to be undergone, and the

excessive labour which falls on the medical officer who thoroughly does his duty, he ought to have a high reward to look to.

“The advantages of medical officers in the service, during the last forty years, have, it is true, been greatly increased; but Government was compelled to increase them, because, soon after the commencement of the revolutionary war with France, the greatest difficulty was found in obtaining those who were qualified for the duties. It was at one time found absolutely necessary to advertise for them; and in fact to beat up for them, offering present pay and good quarters. Placards were posted on the college gates of Dublin, Edinburgh, and Glasgow, offering commissions to such as could pass some kind of examination; which, if passed, immediately entitled them, under a warrant from the army medical board, to pay and quarters. They had, moreover, all their travelling charges defrayed from the place whence they came. This was continued for many years; indeed till nearly the close of the war; and it was the occasion of many uneducated and unqualified persons being introduced to the service, not a few of whom, in quarters where the promotion was rapid, found means to pass through different grades to the rank of regimental and staff surgeon. Not a few apothecaries, and even druggists' apprentices, found their way into the service in this manner.

“I ought not to omit stating that, whilst a number of most deserving, although ill-educated young men, thus gained admission into the service; from the increase of pay and half pay, and other advantages, which Government found it necessary to concede from time to time, and to increase, the encouragement then held out induced likewise many men of finished education and great endowments to enter, who redeemed the character of the medical officer with the army in general.

“It is not only in the sense of humanity, but in that of a sound policy and real economy, that the State should provide able medical and surgical advice for the soldier when sick or wounded. I look upon it to be an implied part of the compact of citizens with the State, that, whoever enters the service of his country as a soldier, to fight its battles, should be provided with the same quality of medical aid, when sick or wounded, which he enjoyed when a citizen. In every large town, whence the great bulk of recruits is drawn, there are public hospitals and dispensaries, which, supported by the subscriptions of the rich, are always open to the sick and poor, and to persons of the middle classes; in fact, to those ranks in life from which the soldier comes. The physicians and surgeons of these public institutions are always the ablest men in the profession of medicine. After the enjoyment of such medical aid the soldier should not, therefore, be consigned to the ignorant and uneducated of the profession; he is clearly entitled to the same quality of medical advice as when he was a citizen, and is not to be put off with a cheap article of a

doctor, and with one who could not afford the expense of a regular medical education.

“With a full knowledge of the subject, and strongly impressed with the circumstances which I have stated, and which I have witnessed hundreds of times; when I came into office, as head of the department, at the conclusion of the war, my first object was to find a remedy for this great evil.”

From Bombay the 88th went to Ceylon to take part in an expedition about to be organized against Batavia, but their destination was suddenly changed, and they sailed for the Red Sea, under the command of Sir David Baird, with a view to effecting a junction in Egypt with Abercrombie, who entered from the Mediterranean. Sir James had made many influential friends in India during his short sojourn there, and he was appointed Medical Superintendent of the expedition, this being the first instance of an officer of the King's service being placed in charge of the Company's army. It is not necessary to dwell here on the crossing of the Desert, the plague, and the other incidents of this expedition, as they are already sufficiently known from the “*Medical Sketches of the Expedition from India to Egypt*,” a work composed during the home voyage, and published soon after Sir James arrived in England.

He was now gazetted to the Horse Guards Blue, when he left the 88th with feelings of profound regret. The Blues at this time were stationed at Windsor, and attracted a great deal of attention from the King, who expressed a desire to have a troop in the corps, and the Queen gave a series of balls, to all of which Sir James was invited, but his enjoyment was not a little marred by military etiquette.

“In the first ball at the Castle I appeared in what seemed to me the proper dress for me—the uniform appointed for me by his Royal Highness the Duke of York, commander-in-chief of the army. In the course of the evening I observed that his Majesty had eyed my dress much. On the following morning, Colonel Dorrien, who had acted as silver-stick, informed me that his Majesty had noticed that I had appeared at the ball not in the full dress of the corps. When I stated to the colonel that the dress I had appeared in was that appointed by the regulations for the surgeon of the corps, Colonel Dorrien expressed his satisfaction. Thinking I was quite correct, I appeared at the second court ball in my uniform as surgeon, which was without lace and without a sash. Colonel Dorrien sent for me on the following morning to express to me his Majesty's

dissatisfaction that I should have appeared at the ball in any other than in a full dress suit of the uniform of the regiment; and the colonel said that, if invited again, he recommended that I should either go in a full dress suit, or not go at all. For the third time I received, through the vice-chamberlain, his Majesty's commands to a ball at the Castle, when I determined to appear dressed according to the desire of his Majesty. The full dress of the officers of the Blues was a splendid, I may say a gorgeous one, and very expensive; the coat alone, I believe, cost twenty-eight guineas. I therefore borrowed the coat and sash of my friend Captain Kingsby, and my appearance seemed to be to the satisfaction of the King, but not so of the Duke of York. I happened to stand opposite to him for some time, looking on at a dance, and he appeared to eye my dress so curiously, that I felt as if he had said: How came you here not dressed according to the regulations? On mentioning this to Sir Henry Torrens, who was present, he promised to explain to the commander-in-chief why I appeared as I did, and that it was by express desire of the King."

The easy life of the "Blues" was soon exchanged for the more arduous one of Deputy Inspector-General, to which he was promoted. The attention of officers holding this rank had hitherto been directed more to the financial economy of hospitals than to the cure of the sick, and the chief duty of a regimental surgeon appeared to be that of an accountant, and he was most applauded who was most correct in accounts, and the greatest economist in oatmeal, salt, barley, &c.; but Sir James introduced a new system, with a view to turning the reports and returns made by the surgeons and assistant-surgeons of each regiment to the purposes of scientific information and improvement. A minute attention to the professional part of his duties was impressed on each medical officer; he was urged to make use of the fine field for experience and observation that lay before him, one that presented peculiar advantages for trying the effects of all new remedies or modes of treatment, because of the perfect control under which the patients were placed, and where personal and friendly intercourse and advice failed to produce a proper appreciation of these advantages, the weight of official influence was brought to bear. Under this system the state of the medical department of the army underwent great improvements, and the army can now boast of men of the highest literary and scientific attainments and practical skill, notwithstanding that the inducements to idleness and dissipation are, from various circumstances, not a few, and that the obstructions to scientific research, caused by the routine and the vagaries of "rigid

disciplinary commanding officers," are numerous. Sir James records some very amusing examples of these obstructions as occurring to him at this period of his career.

The zealous performance of the extensive and onerous duties that devolved on him as Deputy Inspector-General, pointed out Sir James as the "right man" to be placed in all situations of special difficulty, and requiring more than ordinary ability. Accordingly, we find him promoted rapidly. From the limited district in which he first had the Inspectorship of Hospitals, he was moved to a much more important one, where he had to make arrangements for the embarkation and arrival of many expeditions. Among the rest he had to receive the remains of Sir John Moore's army after the retreat from Corunna, when the number of sick and wounded was overwhelming, and barracks, naval hospitals, temporary buildings, and ships, had to be fitted up for their reception, and a large staff of medical officers and private practitioners had to be collected. This duty accomplished, his services were next demanded to organize a medical staff for the Portuguese army; but before he could proceed thither, a more urgent and pressing call presented itself from Walcheren, where there was an amount of sickness and mortality hitherto unknown either in our fleets or armies. His Majesty's ship the "Venerable" was ordered "to proceed instantly with the doctor to Walcheren, and take with him any medical officers who may come in by the coaches this morning." In half an hour Sir James was on board, but the voyage was a most disastrous one, the ship being wrecked on sand banks off Flushing, and the lives of all placed in the utmost peril for several hours. Arrived at Walcheren he found the stores of drugs and medical comforts exhausted, and had at once to take measures for obtaining fresh supplies. This he was fortunately enabled to do, by the opportune arrival of an American ship having such things as were most wanted on board, and which he ordered the purveyor to purchase.

After the miserable remnant of this fine army returned to England, Sir James, whose services were particularized in the despatches as having been "most unremitting and praiseworthy," was prostrated by the fever, the seeds of which he had carried home with him. Recovered from this he resumed his duties at Portsmouth, and married in 1810, but was not permitted to remain very long to enjoy domestic life, as one morning the London post, suddenly and unexpectedly, brought him orders to prepare for embarkation for the Peninsula, as chief of the medical staff under

the Duke, then Lord Wellington. In the Duke's despatch he demanded that he "should have the most active and intelligent person that could be found," and the Commander-in-Chief, the Duke of York, at once ordered Dr. M'Grigor to proceed to the head quarters of Lord Wellington, and wrote to his lordship expressing his confidence that in the officer he sent him he would find all he could desire. An estimate of his thorough efficiency fully verified, as shown by the terms in which the Duke of Wellington wrote of him at the close of the war, saying, "I have every reason to be satisfied with the manner in which he conducted the department under his direction, and I consider him one of the most industrious, able, and successful public servants I have ever met with."

The account Sir James gives us of his experience in the Peninsula is most interesting. The stories of his personal adventures, and of his intercourse with the Duke and others, and his anecdotes of the various sieges and battles, and of the marchings and counter-marchings, afford a most vivid, and no doubt truthful picture of the campaign, and exhibit, in new lights, the character and amazing abilities of the Duke; but our space does not permit us to dwell on them.

After the Allies had got possession of Paris, and peace was proclaimed, he visited Montpellier, wishing to examine the French hospitals, but was prevented seeing the military hospitals by the jealousies of the French surgeons, so he at once proceeded to Paris, where he called on Baron Larrey, whose acquaintance he had previously made in Egypt, and by him he was brought through all the Paris hospitals, and afforded every facility for studying the French systems, an examination from which he came away with the conviction that, except the ambulances, there was nothing in them worthy of being adopted into the English.

Arrived at home, he had the honour of knighthood conferred on him, and he contemplated retiring from service on an allowance of £3 a day that he had been awarded for special services, and commencing private practice in London; but, before his plans were matured, a vacancy occurred at the Medical Board, and he was appointed President of it (1815), and soon afterwards obtained the entire control of the Medical Department of the Army, as "Director-General," having, by his unrivalled industry and unflagging earnestness and perseverance, and by his skilful and honest discharge of his duties, raised himself to the highest position in the service.

This position he held till 1851, and, while holding it, he devoted himself to the carrying out of the reforms, of which his long experience in the ranks taught him the necessity. He now received numerous additional honours; he was made a Knight Commander of the Tower and Sword of Portugal, for his services in the Peninsular campaign, and was also permitted by his Sovereign to wear the Turkish order of the Crescent for the part he bore in the Egyptian campaign. In 1831 he was created a Baronet, and in August, 1850, invested with the order of a Knight Commander of the Bath, and in addition to these and other royal and public favours, he was elected into several learned societies. With his appointment to the Medical Board in 1815, his autobiography ceases; but the editor has added a supplemental chapter, with the following extract from which we must leave Sir James M'Grigor, that we may apply our remaining space to the life of Baron Larrey:—

“Thus, in 1851, began Sir James M'Grigor's retirement. Entering the army as Surgeon of the Connaught Rangers, in 1793, he quitted it as Director-General in 1851. He had spent nearly fifty-seven years of his life in active employment. As night succeeds day, so rest must sooner or later succeed labour; and more than half a century of labour did certainly need repose. About seven years of life still remained to Sir James M'Grigor, during which, though in the course of nature greatly enfeebled in bodily health, he enjoyed that peace of mind which was doubtless the result of a conscientious discharge of all his duties. The urbanity of his manners, the benevolence of his disposition, and the simplicity of his heart, drew around him, for the remaining years of his life, a circle of friends, in whose cheering kindness and attentive solicitude, as in the devoted affection of the members of his family, he found enjoyment. Thus the current of those later years was calm and tranquil. Few men had seen pain, disease, and death under more violent and hideous aspects than Sir James M'Grigor; he had personally passed through many perils of shipwreck, siege, and battle; yet, by the blessing of good general health, combined with a sound mind, of an equanimity seldom ruffled, under the beneficent will of a Higher Power, the long current of his life ran itself gradually out, becoming even more smooth towards its close. He died in London on the 2nd of April, 1858, about seven days before the completion of his eighty-eighth year, without pain, and almost without disease; for the gradual extinction of the powers of nature can scarcely be called disease.”

The memoir of Larrey comes before us without any intimation as to who the writer of it may be, or what means of information he

may have possessed. The title page simply says, "From the French." Even the name of the translator is not communicated. It is probable, from internal evidence, that neither author nor translator belongs to the medical profession; nor is there anything like the amount of personal anecdote and illustration in the book that is to be found in the *Autobiography of Sir J. M'Grigor*; yet it is exceedingly interesting, and displays well the busy active life, the energy, devotion, and enthusiasm of Larrey; his self-denial, and his loyalty to his duty and to his leader. But it makes no mention of a circumstance that displays his character in a light more honourable than all the writer has recorded. It was during the retreat from Acre to Jaffa, where had taken place, shortly before, the frightful massacre of 4,000 prisoners, who, notwithstanding that they had laid down their arms on the assurance of their lives being spared, were marched out on the plains, firmly fettered, and shot down in cold blood—that Napoleon, feeling incumbered by his own sick, whom he could not carry with him, again proposed to rid himself of a burden by putting them to death, and suggested to Larrey that he should administer poison to them in their medicines; but Larrey, true to himself, replied in terms ever to be remembered, and which in a memoir of him should not have been omitted, saying:—"My vocation is to prolong life, and not to extinguish it." The poisoning was effected by other and less scrupulous hands, and about 60 victims fell to it. Napoleon afterwards defended the act on the plea that they were hopelessly ill of the plague, and that within an hour they would have fallen into the power of the Turks, who were barbarously putting all their prisoners to painful and lingering deaths; and historians—even Alison—admit that the circumstances justified the act. But history must ever record with admiration the answer of Larrey, and his loyalty to his Profession, even to the risk of losing the favour of his General; for, let the presumed necessity for the act have been ever so pressing, shocking and horrible as its perpetration in any case would have been, for the surgeon to have done it would have entailed infamy on himself, and have destroyed all confidence for ever after.

We are told that Larrey was born in 1776—that is six years after Sir James M'Grigor; but in this there is probably some error, as we find that, after studying six years at Toulouse, under his uncle, Surgeon-Major Larrey, who adopted him at the death of his father, he entered the navy as assistant-surgeon and, being wrecked, returned to Paris in 1789, where he became an eye witness of the

troubles of the Revolution, and took charge, under Desault, of its first victims.

The experience thus obtained enabled him to serve with *eclat*, three years later, in the army of the Rhine, under Luckner, which he joined on 1st April, 1792, and where he was appointed medical chief of Kellerman's division. Here he soon saw active service; and perceiving at once the inconveniences of the French ambulances as then constructed, and overwhelmed with the privations and sufferings he saw entailed on the wounded by their inefficiency, he devoted himself to the construction and organization of the *ambulances volantes*. The advantages of these and the merits of Larrey were at once recognised; and, in a despatch written to the Convention, after they were first used, General Beauharnais says:—"I ought not to omit mentioning the names of Surgeon-Major Larrey and his comrades with flying ambulances, whose indefatigable care in the healing of the wounded, has diminished those afflicting results to humanity which have generally been inseparable from the days of victory, and has essentially served the cause of humanity itself in preserving the brave defenders of our country."

When the army went into winter quarters, Larrey was sent by the generals and representatives of the people to Paris that he might superintend the construction of *ambulances volantes* for all the armies of the Republic. He was soon ordered to join the army of Italy, to organize an ambulance corps there. Buonaparte at once manifested a lively interest in the corps. He caused it to manœuvre before him with all its staff, just as if it were on the field of battle, and then testified his approbation, saying to Larrey:—"Your work is one of the most happy conceptions of our age; it will suffice for your reputation."

In Italy Larrey occupied what leisure time he had in establishing a school of surgery at Milan, in inspecting the hospitals at Venice and Padua, and in visiting the celebrated Professors Spallanzani and Scarpa; and on his return to Paris was ordered to repair to Toulon as Surgeon-in-Chief to an expedition.

He now set about to organize a medical staff, and to collect all the requisite material for a large army, taking care to have a sufficient number of ambulances. Suspecting the object of the expedition, he applied himself to the diligent study of the climate and peculiarities of Egypt. His surmise proved correct; and they soon disembarked at Alexandria, where the campaign was commenced to which Sir James M'Grigor, as we have already seen, afterwards hurried,

entering Egypt from the Red Sea. And here it was that the contemporaries were first brought into connexion with one another; and both of them have left behind them valuable works containing the results of their experience in the expeditions.

Some of our Irish surgeons sometimes dilate on the niceties of the treatment required after capital operations, the attention to position, and many other circumstances essential to the recovery of the patient; but we are not aware that any of them have ever nursed a patient after the following fashion, adopted by Larrey after the unsuccessful attack on the English position at Aboukir, where 1,900 French, including six generals, were wounded, among whom was one whose knee was ground by a bullet:—

“Larrey, perceiving that fatal results might ensue unless the limb was amputated at once, proposed amputation. The general consented to the operation, which was performed under the enemy's fire, in the space of three minutes. But lo! the English cavalry suddenly near their side. What was then to become of the French surgeon and his dear patient? ‘I had scarce time,’ said Larrey, ‘to place the wounded officer on my shoulders and carry him rapidly away towards our army, which was in full retreat. I spied a series of ditches, some of them planted with caper bushes, across which I passed, while the cavalry were obliged to go by a more circuitous route in that intersected country. Thus I had the happiness to reach the rearguard of our army before this corps of dragoons. At length I arrived with this honourably wounded officer at Alexandria, where I completed his cure.’”

It is not necessary to follow him through all his career, which is uniformly marked by unceasing industry, amazing energy, and noble devotion to the improvement of surgery, and the furtherance of everything whereby life might be saved, and suffering relieved. Wherever he went he laboured for the one end; he attended the wounded under the fire of the enemy; he inspected hospitals and museums; he visited celebrated professors—as Spallanzani, Scarpa, Sœmmering, and Humboldt; he established schools of military surgery; he lectured, he advised, he taught; and both by precept and example he urged on his God-like mission of ministering to suffering humanity. Nor were his attentions confined to his countrymen; wherever suffering was, there was he to be found. At one time we find him at El-Arisch, in the crowded, fetid, and pestilential underground Turkish cave; at another, remaining behind his countrymen in Spain to take care of, and provide for, the wants of

the English who fell into their hands at the retreat of Sir John Moore—a duty in the performance of which he well nigh became a victim, having taken fever from his patients. To him, the office of the surgeon and the rights of humanity among the sick and wounded admitted of no distinction of country. He allowed no routine, or dread of incurring responsibility to interfere with his providing for the requirements of his patients. At the island of Lobau, for instance, he had recourse to an expedient which he had successfully adopted on a previous occasion, and was in consequence summoned before the Emperor, who, however, instead of yielding to the clamour of the complainants, raised him to the rank of Baron of the Empire.

“Though all the wounded in the island of Lobau received much attention from the French surgeons, they suffered greatly. The chief causes of their sufferings were the heat of the day, and the icy coolness of the night. Moreover the destruction of the bridges and the insufficient number of boats rendered it almost impossible to import the quantity of provisions and comforts requisite for the large number of wounded. The Surgeon-in-Chief, Larrey, in order to prevent his patients being starved, ordered soup to be made of horse-flesh. Although Larrey endeavoured to spare the horses as much as possible, yet the French generals, who chiefly suffered, were loud in their complaints at their horses being turned into food. It was a wanton violation, as they thought, of the rules both of Epicurus and of humanity. Accordingly they complained to Buonaparte of the manner in which their animals had been served up by order of Larrey. The Emperor summoned Larrey, and in the presence of his staff demanded an explanation with a most severe expression of countenance. ‘What,’ said he, ‘have you on your own responsibility disposed of the horses of the officers in order to give soup to your wounded?’ ‘Yes,’ answered Larrey. He added no more, and soon afterwards he heard of his elevation to the rank of Baron of the Empire. The want of food was not greater than the want of utensils, and among the expedients for remedying the deficiency was that of picking up cuirasses on the field of battle. On these cuirasses, the owners of which had in most cases been killed, soup of horse-flesh was served, there being scarce any other nourishment for Larrey and his patients in the island of Lobau.”

At the abdication of Napoleon, when so many of those who had received kingdoms and highest honours at his hands deserted him, Larrey remained faithful, and would have accompanied him to Elba had he permitted. After his return to Paris, Larrey was one of the first officers that Napoleon sent for. He was again placed at

the head of the medical department of the army, and was present at Waterloo, in the flight from which he was taken prisoner by the Prussians, and about to be shot, when he was recognised by a Prussian surgeon who had attended the lectures he delivered in the Prussian capital about six years previously, and who had sufficient influence to obtain a reprieve, and have him brought before Blucher. The introduction was fortunate, as in the Austrian campaign Blucher's son had been taken prisoner by the French, and was spared his life through the exertions of Larrey. So, in grateful recollection of his Samaritan benevolence, Blucher not only cancelled the sentence of death against Larrey, but granted him an escort to Brussels.

"Larrey was obliged by the Allied Powers to leave Brussels for Paris, where he arrived on the 15th of August, 1815. His wife and family, who had been in great anxiety about him, fearing that he was dead, experienced much joy at seeing him again. Domestic happiness still remained to him, but outside the circle of his home all seemed dreary. The enemies of his great chief were now firmly established; but these enemies respected the great and good qualities of Larrey, and gave signs of their respect by offering him employment both honourable and lucrative. Among those who paid this tribute to his worth was the Emperor Alexander, who offered him a high medical position in the Russian armies. He refused all tempting offers from foreign powers at that time, so great was his desire to devote himself to disinterested acts of charity on French soil, even under the somewhat unfriendly and discouraging rule of a Bourbon."

During the early years of the restoration Larrey was deprived of his rank as Inspector-General of Hospitals, and of the pension of 3,000 francs granted to him by Napoleon on the field of Lutzen; but the pension was restored in 1818, and the title of Surgeon of the Royal Guard was bestowed on him three years later by Louis XVIII. Some years subsequently he determined to write a great work on surgery; and, anxious to know the progress that had been made in this science in England, he embarked for that country about 18th August, 1826, accompanied by his son, who has filled, under the Third Napoleon, the place of his distinguished father. The medical men of Great Britain seemed to vie with one another in showing how much they appreciated both the talents and moral character of Larrey. He devoted much time to visiting the hospitals; and on his return to Paris addressed to the

Minister of War a report in which he made known the result of his journey. He also presented to the Academy of Sciences a memoir containing disquisitions on a number of clinical subjects, which gained him so much credit with that body that in 1829 he was named a member of it, on the death of M. Pelletan.

In 1841, old in years but young in spirit, he undertook the fatiguing and dangerous mission of inspecting the military hospitals of Algeria. The physical exertions, the mental labours, and the continued excitement of this inspection exhausted his strength. He completed his mission; and hurried towards Paris to present his report; but he lived only to reach Lyons.

To moralize here on the career and characters of these great men were useless. Indeed their lives are the best commentaries on their characters. It remains only for us to close our brief notice of Larrey with the words spoken by Napoleon in St. Helena, fitting accompaniment of those we have already quoted as spoken by Wellington of Sir James M'Grigor:—

“‘What a man, what a brave and worthy man is Larrey! What care was given by him to the army in Egypt and everywhere! I have conceived for him the highest esteem. If the army were to raise a column to the memory of any one, it should be to that of Larrey. He has left in my mind the idea of a truly honest man. He is a truly worthy man, for to science he unites all the virtue of an effective philanthropist. All the wounded are of his family. The chief object of his consideration has been to exert himself in his hospital, in which he has been so successful as to entitle him to both my esteem and my gratitude.’ Not long afterwards Napoleon made his will, and wrote in it:—‘I bequeath to the Surgeon-in-Chief of the French army, Larrey, 100,000 francs. He is the most virtuous man I have ever known.’”

Transactions of the Obstetrical Society of London. Vol. III., for the year 1861. London: Longmans. 1862. 8vo, pp. 480.

THIS volume contains the papers read before the London Obstetrical Society, during the session of 1861. Many of them are of great value, and we propose to lay before our readers a digest of the most remarkable of them.

The session was opened on the 2nd of January, with an Address from the President, Dr. Tyler Smith, which was a graceful éloge

on the late President, Dr. Rigby. At the conclusion of this, the regular business of the session was commenced with the following paper:—

I.—*A Case of Fibrous Tumour of the Uterus.*

By T. H. TANNER, M.D., &c.

The patient, aged 34, had been married seven years, when she came under Dr. Tanner's care in 1855; she had suffered from attacks of hemorrhage for two years, which had latterly become almost incessant; the hemorrhage continued, scarcely influenced by treatment, till her death in 1860. The abdominal parietes were loaded with adipose tissue, so that it was difficult to learn the condition of the viscera; but there was a greater dulness over the hypogastric region than elsewhere, and such a sense of resistance as would be communicated by a solid tumour. On examining by the vagina the uterus was found very high up, so that the cervix was reached with difficulty, the os uteri was so small that a small bougie could not be passed through it. Astringents of all kinds were tried without benefit; the tampon could not be borne; the only agent that appeared to have any effect in checking the hemorrhage was mercury, to which the patient owed her life on several occasions; the sixteenth of the bichloride, every sixth hour, had as good an effect in this way, as calomel pushed to salivation. After death the abdominal walls were found two inches thick with adipose tissue, there was a fibrous tumour in the posterior wall of the uterus, as large as half a small orange, and projecting into the cavity of the uterus. There were two cysts, one large and one small, connected with the right broad ligament, the larger measured nearly nine inches across, and, by resting on the wings of the false, bore up the uterus out of the true pelvis.

II.—*On the Treatment of Sickness in Uterine Inflammation, and Diseases of Menstruation.* By E. J. TILT, M.D., &c.

In addition to the diseased states referred to in the title of this paper, Dr. Tilt treats of sickness in other uterine affections, such as fibrous tumours and displacements. The treatment advised is: 1st, removal of the cause; 2nd, opiates and sedatives, both internally and applied to the uterus and uterine region, as enemata, plasters, and ointments; 3rd, counter-irritation over the stomach. He has seen the sickness suddenly stopped, by the application of potassa cum calce or leeches to the neck of the womb; effervescing drinks,

ice, and bitter tonics, he has found useful. He always advises the patient to take a cup of tea or milk, with a teaspoonful of brandy, on first awakening in the morning, and before getting out of bed; every thing in the way of diet, that such patients fancy, should be given; every half hour it is well to give a teaspoonful of some nutritious food, such as milk or cream, with rum or brandy. Many would never eat, if left to themselves, and their friends should be told to take to them at unexpected times a few mouthfuls of something savoury, and the patient must make a duty of taking them.

III.—*Case of Puerperal Fever complicated with Diphtheria, in which life was saved by the Sesquichloride of Iron.* By ROBERT DRUIT, M.R.C.P.L.

The fever commenced on the seventh day after delivery with rigor and pain in the leg, followed by pain in the chest, and slight tenderness over the uterus. Treated with stimulants, quinine and opium, the patient rapidly ran into a low typhoid state. On the eighth day of the fever she was put on the use of the tincture of the sesquichloride of iron, in drachm doses, every second hour. At this time she was complaining of her throat, and two days after, the pharynx was discovered to be covered with a diphtheritic exudation. On the tenth day she began to loathe the steel, which she had taken freely hitherto, and it was changed for the quinine. The diarrhea at this time was checked, and the stools black and perfectly deodorized. Next day the steel was resumed in half drachm doses. In two days more she was able to be on the sofa, and from this forward her recovery was rapid and satisfactory. Dr. Druit attributes the good effect of the steel, not only to its powerful tonic and stimulant virtues, but also to the fact that it completely deodorized the contents of the alimentary canal.

IV.—*Case of Epileptiform Convulsions in the third week of the Puerperal State.* By R. UVEDALE WEST, M.D.

The convulsions in this case are attributed by Dr. West to "eccentric intestinal irritation, joined with slight albuminuria, at a time when the puerperal state rendered the nervous system peculiarly susceptible." The patient recovered under the use of purgatives, alteratives, and tonics.

V.—*Ovariectomy, with cases and remarks on the different steps of the operation, and the causes of its mortality.* By W. TYLER SMITH, M.D., &c.

Dr. Smith records four cases in which he removed the diseased

ovary, and in each of which the patient made a good recovery. Case 1 was a monocystic dropsy of the left ovary, in a woman aged 50, mother of five children. The disease was of two years' duration. There was a small quantity of ascitic fluid, and there were no adhesions. The operation was performed on the 15th October, 1860. In four weeks the patient was well enough to go out and travel by rail to Boston. In seven weeks the ligature came away; and on 6th February, 1861, she was in perfect health. Case 2 was one of polycystic disease of the left ovary in an unmarried woman, 24 years of age. Tapping and pressure had been tried, but the tumour filled again. The operation was performed on the 15th November, 1860. The tumour was extensively adherent to the lesser omentum and arch of the colon. The adhesions were broken by the hand; considerable oozing took place from the omentum, but after ten or fifteen minutes it ceased, and the coagula were removed, and the incision closed. She was in considerable danger for upwards of a week from peritonitis, and when she began to move about, she was seized with violent pain in the situation of the adhesions, as if the movement had separated or inflamed them. She is now, eleven weeks after the operation, in good health, the ligature has not yet come away, but the opening through which it protrudes is diminished to the smallest possible extent. Case 3 was a monocystic disease of the left ovary in a lady unmarried, aged 30. She had never been tapped; there were no adhesions. Her recovery after the operation, which was performed on 7th December, 1860, was without a bad symptom, and in three weeks she sat up convalescent. Case 4 was one of polycystic disease of the left ovary, of the colloid type. The patient, aged 35, had been delivered of a healthy child, at the full term, four months before the operation, which was performed on 4th January, 1861. There was a large quantity of ascitic fluid; the tumour was adherent to the abdominal walls on the left side by a number of strong rope-like bands, which were separated by the hand, great force being necessary to detach them. She sat up at the end of a month; the wound gradually healing, and the sutures closed; the ligature came away on the 3rd February, and the last report of her was that she was going on very satisfactorily.

In his remarks, Dr Smith says, these are the only cases in which he has ever attempted anything beyond tapping, or tapping with iodine injection; and he feels bound to confess, that in the treatment of ovarian disease, he has not done as much good in the

whole of his previous career as he has in the few months occupied by the cases now detailed; he could not before point to an equal number of distinct and positive cures of this common and destructive malady. It would not, he says, be possible, individually, to say anything stronger than this in favour of the operation.

Dr. Smith operates with the patient in a sitting position, in an easy chair, to better allow of tapping without the escape of any of the contents of the cyst escaping into the peritoneum; this posture also favours the escape of the ascitic fluid. He keeps the room at a high temperature, and uses chloroform. He prefers a moderate incision which can be enlarged if necessary—and uses a ligature for the pedicle, instead of a clamp—and returns the stump into the pelvis. Though the clamp may be removed as the wound heals, and the patient be cured at an earlier period than with the ligature, he thinks its weight, its keeping the pedicle on a strain, its liability to be displaced, and its causing a close adhesion of the uterus to the line of incision, which may be injurious in a future pregnancy, are sufficient reasons for not using it. When a ligature is used and the stump returned into the pelvis, it soon becomes isolated by lymph poured out around it; and, he has never seen any disadvantage from this practice. Dr. Smith refers to Mr. Clay's statistics as proving that the proportion of deaths is greater when the clamp has been used or the stump kept outside, than when it was allowed to fall into the abdomen. He uses silk for the sutures, but is not sure whether silk or wire would be the best material; he passes the deep sutures to the peritoneum, but not through it, and puts them so close as to keep the incision perfectly closed, except at the exit of the ligature. When there are adhesions he separates them with the hand, and, as far as practicable, on the side of the tumour, and when bleeding occurs arrests it by ligature, if necessary; when only oozing takes place, the wound should never be closed till it has ceased, and all clots and bloody serum have been carefully taken away. Opium, except when there is acute pain, he thinks likely to do more harm than good; but the employment of stimulants at the right time, he regards as an important element of treatment.

VI.—*Defective Formation of Skin round the Umbilicus; Plastic Operation.* By ALBERT NAPPER, ESQ.

This was a case of a deficient formation of the abdominal wall. The contents of the abdomen protruded into the umbilical cord to

the size of a small orange. Ten days after the child's birth "the cord was sloughing off at the margin of the true skin, leaving only a thin transparent membrane over the hernia, which daily increased in size, measuring at this time seven and three-quarter inches in circumference." On the twelfth day Mr. Napper proceeded to pare the edges of the opening, and to bring them together with hare-lip pins and twisted suture. During the operation the whole contents of the abdomen escaped, and there was much difficulty in returning them. The child did not appear to suffer much, nor was it much exhausted; it afterwards took milk and water (the mother having unfortunately lost her milk on the previous day), and lay composed till two o'clock the following day, when it died.

VII.—*On Fibrous Tumours of the Uterus, treated by Surgical Means.*

By I. BAKER BROWN, F.R.C.S., &c.

In this paper Mr. Brown details six cases in which he operated on fibrous tumours of the uterus, by incising the os, and gouging out a portion of the centre of the tumour, so as to lead to the breaking up and dissolution of it in the form of a muco-purulent discharge. The tumours for which the operation is intended are only those that are intra-uterine, of the non-pedunculated form, growing from the inside of the uterus by a broad base. Case 1 was of seven years' duration, the patient much reduced by hemorrhage. Mr. Brown incised the os on the 26th May, 1859, after which all hemorrhage ceased, and she went to the country to gain strength; on the 27th October he gouged out a piece from the centre of the tumour, and in February, 1860, all discharge had ceased, the uterus had gained its normal dimensions, all the symptoms of the tumour had disappeared, and the general health was greatly improved. Case 2—A fibro-cystic tumour.—On the 5th July, 1860, the os was incised, and on the 26th the tumour broken down with a pair of scissors in several places. On the 9th August the abdomen was an inch and a-half less in circumference than before the operation, the tumour was breaking down and passing away in lumps, with an offensive discharge from the vagina. On the 17th there was considerable hemorrhage, which came away with purulent and broken-up fibrinous matter from the womb. On the 21st symptoms of pyemia set in, but passed off in about a week, under the use of chlorate of potass and bark, with good nourishing diet. 28th, tumour much smaller, appetite and general health improving. Sept. 27, much hemorrhage. Nov. 27, menstruated, with only the normal amount of discharge.

Dec. 10th, the tumour exceedingly diminished in size; health very good. Feb. 1861, patient in good health, has gained flesh and strength. Has twice had some return of hemorrhage, but not enough to confine her to the house. Mr. Brown says that very probably she may require to have the tumour again gouged, but that her improvement has been very great. Case 3.—An unmarried woman, aged 46.—The os was incised, and the tumour gouged at the same time; pyemia set in, and she died on the tenth day after operation. This is the only fatal case Mr. Brown has had; he attributes the pyemia to the introduction of pus through one of the recently cut surfaces of the os, and has consequently made it a rule to divide the operation for the future into the two stages, the tumour not being gouged till the cut surfaces of the os have healed. Case 4.—Os incised on 27th Feb. 1860; tumour gouged on 7th May. On 7th July she left the “Home,” the tumour being very much less, and general health much improved, and when heard of she was in good health, and without a return of hemorrhage. Case 5.—A large intra-uterine tumour, occupying the pelvis; the uterus retroverted so that the os could not be reached. On 29th Nov. 1860, an incision was made through the posterior wall of the uterus, so as to expose the tumour freely. On 29th Dec. the tumour was gouged. On 24th Jan., 1861, this was repeated, as the tumour had not disappeared sufficiently rapidly, and on 7th Feb. again repeated, and Mr. Brown has no doubt the tumour will entirely disappear in a short time. Case 6.—Three intra-uterine tumours just within the os, but projecting into the vagina. On 15th Jan., 1861, the os was divided, and the tumours freely cut into. On 15th Feb. two of the tumours had quite disappeared, and one was not half the original size. The operation was not divided into two stages in this case, because the os was patulous, and the tumours could be easily reached.

Mr. Brown concludes: 1st, that such tumours may be destroyed by a surgical operation; 2nd, that the operation may be performed successfully and safely; 3rd, that the preliminary division of the os and cervix nearly, or quite, arrests uterine hemorrhage, the most serious symptom attendant on uterine tumours.

VIII.—*On Uterine Hematocele.* By H. MADGE, M.D.

This is a valuable paper on this little-understood disease, founded on a case of which the following is a sketch:—Mrs. L., aged 34, 13 years married, and has had three children, the youngest of whom is six years old; about six years ago she nearly lost her life from

secondary fever, accompanied with a peritoneal attack after cholera; has not been pregnant since this attack. On 27th of October, 1860, the menstrual discharge having lasted two days, she was seized with violent pains in the hypogastric region, which continued throughout the night and following day. This was treated as a local peritonitis. The catamenial discharge continued during the attack. She was doing well till 5th November, when, contrary to directions, she went out for a walk. She was brought home in a state of profound collapse. After she had walked a short distance the discharge suddenly returned in increased quantity, when she immediately complained of a feeling of weakness, and had to be assisted into a cab. The discharge by the vagina, after she got home, was very slight, and ceased altogether during the night. The state of collapse continued till the following day, when there was evident fulness with signs of peritonitis in the lower part of the abdomen, especially in the right iliac region. On the 7th, reaction was established, and there was fever, with a very anxious countenance. The fulness had now become a prominent and well-defined rounded tumour, more central in its situation, and extending nearly to the umbilicus; on examining by the vagina and rectum the tumour was also found occupying the pelvis, extending to within about three inches of the vulva. The posterior wall of the vagina bulged forward in all directions, and so much against the anterior, that at the upper part of the canal it was difficult to pass the finger; the os uteri was closely pressed up behind the symphysis pubis, the uterus being completely retroverted, and the rectum flattened by the pressure. In a few days the pain and fever subsided, leaving the tumour the size of a full-grown fetal head. On the 18th the patient's general health having improved, and the abdominal tumour having become rather smaller, she had, during the night, a copious discharge per rectum, of dark fluid resembling coffee grounds, apparently altered blood; but, instead of becoming less, the abdominal tumour became larger, and the vaginal swelling was felt softer. Though there was no discharge from the vagina, and it was not the menstrual period, the patient's pallor and lowered pulse showed there had been some accession of internal hemorrhage. About a month from the commencement of the illness the catamenia appeared, and continued two days; but on the second day of its appearance, many of the bad symptoms which were present at the onset showed themselves; the anemic condition, partial collapse, and pain in and around the abdominal tumour being the

most prominent. It was again evident that an accession of internal hemorrhage had taken place, but it did not this time appear to affect materially the size of the abdominal tumour. The patient soon rallied, and all pain subsided, but she was now much wasted and changed in appearance. The face was much attenuated, and became of a whitey-brown or dirty yellowish hue. This peculiar appearance of the skin, simulating that which is considered to be pathognomonic of malignant disease, has often been observed in cases of uterine hematocele, and is supposed to be due to the presence in the system of degenerated or altered blood. She improved during the next fortnight, when phlegmasia dolens, in a severe form, attacked the legs; first the left, then the right. When the next menstrual period arrived, there was a slight discharge from the vagina during one day; on the following she was seized with what was said to be diarrhea, but was in reality a profuse discharge of altered blood and clots, by the rectum. This continued two days, and must have amounted to three or four pints; the tumour speedily disappeared, extreme prostration came on, and she died on the 28th of December.

An examination was made 20 hours after death, when the utero-vagino-rectal cul de sac of the peritoneum was found distended, altered, and converted into a closed cavity by the adhesion of the intestines above and around it; the remains of old and fresh clots and deposits of lymph and fibrin were found in it, and it communicated with two large cells in the left ovary, which seemed to be the chief source of the hemorrhage. It also communicated with the rectum by two openings through which the contents had been evacuated. The Fallopian tubes were impervious.

In the treatment of such cases, the great point is the question of puncturing the tumour, or leaving it to nature; the operative or expectant plan. Dr. Madge prefers the expectant, allowing the blood to be absorbed, or else to make its exit itself. The leading authorities, as Bernutz, Nélaton, Voisin, and others, after considerable experience of both plans of treatment, he says, almost invariably adopt the expectant; but they also agree that there are two classes of cases in which operative measures might be useful—1st. When the tumour, having received an addition of blood to its contents, gives rise to much suffering, and threatens to burst into the peritoneal cavity. 2nd. When the tumour becomes stationary, receiving no additions of blood at the menstrual periods, all pain and active symptoms having subsided, general health good, and the patient wishing to be relieved from a bulky and cumbersome

swelling. The rest of the treatment is conducted on the general principles of supporting the patient, attending to the secretions, relieving pain, inducing sleep, and giving styptics to arrest hemorrhage. Preventive measures would consist in guarding, as far as possible, against the predisposing and exciting causes of the affection.

IX.—*A Case of Difficult Position of the Heads during Twin Labour.* By TIMOTHY POLLOCK, M.D., &c.

The first child in this case presented as a breech, when the body was born the head of the second child came down, the lower jaw of the first being hooked on that of the second, so that it dragged it down before it. The side of the face and head of the one child was pressed on the throat and upper part of the chest of the other. Both were still-born; mother did well.

X.—*Presentation of Right Shoulder and Arm; Spontaneous Evolution.* By CHAS. MAYO, F.R.C.S.

XI.—*On the Indications and Operations for the Induction of Premature Labour, and for the Acceleration of Labour.* By ROBERT BARNES, M.D., &c.

This paper opens with an historical sketch and critical examination of the various methods of inducing premature labour, and then describes a modification, by the author, of Dr. Keiller's method by the application of caoutchouc air pessaries to the dilatation of the passages, and gives cases in which it was practised. Dr. Barnes believes that, by his method, it is possible to terminate a labour, not only on a fixed day, but at a predetermined hour, and that with a greater amount of ease and security to the mother and child than has hitherto been obtained. He divides the process into three stages—1st. Preparatory measures; 2nd. Labour provocative measures; 3rd. Labour accelerating measures. The instruments he employs in the preparatory stage for the primary dilation of the cervix uteri are, if the cervix is very small and rigid, first, short metallic bougies, scooped out hollow for the sake of lightness and to afford free passage for discharges; secondly, a series of cylindrical caoutchouc dilators, the introduction of which is facilitated by being mounted on a flexible metallic stem, a foot or more in length, and which can be withdrawn when the dilator is *in situ*, previously to distension with water. In the provocative and acce-

lervative stages larger cylindrical bags are required; and to obviate a tendency which the cylindrical or pyriform bags have to slip out of the cervix into the vagina or forwards into the uterine cavity, he had one made of a fiddle-shape, so that, when distended, the bulging out at either end maintains the instrument in the cervix, an increased pressure being exerted upon the two points of chief resistance, the os internum and the os externum uteri. When labour is somewhat advanced, it is an easy matter to insert the larger bags, rolled up, into the cervix by the aid of the fingers alone. After introduction, the free end of the tubular portion is attached to the ordinary obstetric syringe-pump by which the bag is filled with water.

When the passages are sufficiently dilated the labour may be accelerated by friction over the uterus, by applying a binder, puncturing the membranes, giving ergot, or, best of all, by turning by Braxton Hick's method, without introducing the hand into the uterus.

XII.—*A Substitute for Brandy in Cases of Exhaustion.*

This is a liquid essence of beef, exhibited by Dr. Druit. It is said to be free of anything that loads the stomach, and to exert a rapid and remarkable stimulating power over the brain.

XIII.—*Case of Idiopathic Pericarditis in a Child two years old.*

By A. MEADOWS, M.D., &c.

XIV.—*A New Pelvimeter.* By J. L. EARLE, M.D.

XV.—*On the Treatment of Cases of Abortion, in which the Placenta and Membranes are retained.* By W. O. PRIESTLEY, M.D., &c.

In this paper Dr. Priestley shows, that the leading authorities are at variance as to the propriety and method of removing the secundines in cases of abortion, Dr. Denman recommending that they should not be interfered with, as he thought there was more danger from operations for their removal, than from their retention, while others attribute very serious inconveniences to their retention. Dr. Priestley adduces cases, from his own practice, showing the great evils arising from the retention. These are 1st, hemorrhage; 2nd, inflammation of the uterus and surrounding tissues; 3rd, various forms of blood poisoning and pyemia. 4th, sub involution of the uterus; 5th, the formation of moles. Of the means recommended for their removal, he has little faith in ergot and similar

medicines; instruments, such as the forceps and hooks, he condemns as uncertain and dangerous in their operation, and he coincides with Dr. Tyler Smith, in recommending that one or two fingers should be passed into the uterus for their removal, the whole hand, if necessary, being passed into the vagina, the patient being placed under the influence of chloroform. About six hours after the expulsion of the ovum, he thinks the right time to operate, and he would not hesitate to remove the chorion, in this manner, even as early as the second month, if any urgent symptoms were present.

XVI.—*Case of Small Pox in Twin Fetuses.* By H. MADGE, M.D.

XVII.—*Case of Idiopathic Pericarditis in a Child two years and a-half old.* By H. MADGE, M.D., &c.

XVIII.—*A Case of Hydatid Mole expelled from the Uterus, immediately after a living fetus and its placenta, at about six months' gestation; the Hydatid growth being the degenerate ovum of a twin conception.* By J. HALL DAVIS, M.D., &c.

XIX.—*On Unusual Elongation of the Fetal Head as a cause of difficulty in the application of the ordinary Obstetric Forceps; with a Description of the modified form of Instrument to be used in such Cases.* By GRAILY HEWITT, M.D., &c.

Dr. Hewitt, having met with a case in which he found it impossible to introduce the short forceps he was in the habit of using, set about to ascertain the reason of his failure. He found that the head had been unusually elongated in its passage through the pelvis, so much so that the occipito mental diameter measured six instead of five inches; and in this paper he suggests a modification of the forceps to suit such cases. He would have the instrument made longer, the blade to measure eight inches, instead of six and a-half or seven, and the curve to be an arc of a circle of fourteen inches in diameter, instead of ten or eleven. It will be seen that these measurements correspond very closely to those of the Dublin forceps, and, we have no doubt, it or Churchill's forceps would have answered every purpose Dr. Hewitt required.

XX.—*On the Inflammation of the Breast, and Milk Abscess; with an Analysis of Seventy-two Cases.* By THOMAS W. NUNN, F.R.C.S., &c.

The object of this paper is to show that, in addition to the great

proclivity to mammary abscess that exists in the first weeks of nursing, there is a proclivity to it, induced by nursing, after the ninth month. This the author attributes to a cachexia caused by over lactation, and requiring a supporting and tonic plan of treatment. In the treatment of mammary abscesses generally, Mr. Nunn uses poultices where there is much pain; but under ordinary circumstances, he believes cotton-wool soaked in oil, or lint spread with ungt. resinæ to be preferable. He insists on the recumbent posture, and when matter forms he makes a free opening. He has been disappointed with belladonna; and for the sequelæ of mammary abscess, such as sinus and œdema, he thinks a weak galvanic current very serviceable.

XXI.—*A Case of Fibroid Tumour, springing from the Posterior Lip of the Uterus, causing complete Prolapse and Simulating Inversion of the Uterus; removal by Ligature; Recovery.* By ROBERT BARNES, M.D., &c.

XXII.—*Four additional Cases of Ovariectomy.* By W. TYLER SMYTH, M.D., &c.

This may be considered a postscript to the paper already noticed. Of the four cases, one died from peritonitis 20 hours after the operation. When the wound was nearly closed it was found there was a good deal of oozing going on; it was, accordingly, reopened. It was found the pedicle had been split, and a vessel injured behind the ligature, and a fresh ligature was applied. One of the sponges used in the operation was now, unfortunately, missing, and some time was lost in searching for it in the pelvis. She seemed, however, as well as patients usually are after the operation, and the quantity of blood lost was not very great. The *post-mortem* examination showed vivid redness of the peritoneum, with a profuse effusion of coagulable lymph. The liver and kidneys were in a granulated condition. The patient was, Dr. Smith says, in better health than any other he has operated on.

In the last case of the series the ends of the ligature were cut off; the pedicle returned into the abdomen, and the incision completely closed. The wound healed completely by the first intention; and it is said that no inconvenience was caused by the ligature, which was of silk. But it is to be observed that the operation was performed on the 14th of June, and the communication made to

the society on the 3rd July. At this date the patient was able to go out daily in a bath chair.

XXIII.—*Is the Ergot of Rye, when administered to the mother during labour, dangerous or not to the life of the child? A practical inquiry.* By R. UVEDALE WEST, M.D., &c.

The answer to this inquiry, arrived at by Dr. West, is, that ergot is not injurious to the life of the child; a conclusion the very opposite of that arrived at by investigators in Dublin.

XXIV.—*Pelvic Cellulitis after second pregnancy, followed by suppuration in the left groin and left antero-superior femoral region.* By N. C. HATHERLY, M.D., &c.

XXV.—*Historical Notes on Displacement of the Unimpregnated Uterus as a Cause of Displacement of the Gravid Organ.*

XXVI.—*On the Influence of Abnormal Parturition, Difficult Labours, Premature Birth, and Asphyxia Neonatorum on the Mental and Physical Condition of the Child, especially in Relation to Deformities.* By W. J. LITTLE, M.D.

Dr. Little attributes the evil consequences referred to rather to congestion of the nerve centres, from suspended respiration, than to mechanical injuries in the delivery.

XXVII.—*New Instruments for the Removal of Uterine Polypi.* By J. BRAXTON HICKS, M.D.

The principle of these instruments is the adaptation of the annealed steel-wire rope to a modification of the screw écraseur. The advantages of the annealed steel-wire rope over the chain are, first, that it is capable of being bent at any angle to the shaft. Secondly, a much greater length can be used; the former property enabling it to be used within the uterus, the latter allowing growths of very large equatorial diameter to be secured by it. The advantage over whip-cord is the ease with which even a small rope is carried to the base of a polypus. The rope should never be used a second time unless for a much less strain.

This instrument seems to differ from the wire écraseur of Maison-neuve only in the substitution of a wire rope for a single wire

XXVIII.—*Polypus of the Uterus, pendulous in the vagina, removed by the écraseur.* By J. GRAILY HEWITT, M.D., &c.

XXIX.—*Five Cases of Ovariectomy.* By I. B. BROWN, F.R.C.S.

These cases make a total of 14 operations performed in the "London Surgical Home," of which 10 have been successful.

XXX.—*Female Bladder showing the results of Retention of Urine after Delivery.* By T. SPENCER WELLS, Esq., F.R.C.S.

A lady—a daughter of a member of the profession—was delivered in the country, on the 20th August; the bladder was not relieved till 48 hours after delivery, nor for 14 hours before it. Two or three days afterwards the water began to dribble away involuntarily. She was brought to London to be operated on by Mr. Wells for vesico-vaginal-fistula, but it was found there was none; very distressing cerebral symptoms set in, and she died on 16th October. The coats of the bladder were thickened; and lying loose in the cavity there was found a mass composed of the whole of the mucous membrane detached from the muscular coat, and covered on both sides with a deposit of the saline elements of the urine. Microscopically this mass might be described as degenerate epithelium holding together saline deposit. On boiling a piece of it in 20 pints of water to one ounce of acetic acid, much of the saline matter was dissolved, and some of the tissue became clear, looking like smooth muscular tissue, which had begun to degenerate, by the deposit of fatty or albuminous particles in its substance. Had not the lady's father been a medical man, the case would not have been brought forward. It was his desire that some good might arise from the case being made known to the profession, without the mention of any names.

XXXI.—*On Vaginismus.* By J. MARION SIMS, M.D.

By this term Dr. Sims proposes to designate an involuntary spasmodic closure of the mouth of the vagina, attended with such excessive supersensitiveness as to form a complete barrier to coition. These cases may be complicated, or not, with inflammation; usually the hymen is thick and voluminous, and when the finger is passed into the vagina its free border often feels as resistant as if bound with a fine cord or wire; but it may also be firm and unyielding, with even

the wire feeling free border, without symptoms of vaginismus. Dr. Sims details cases of women who had been married many years, but without intercourse having taken place, on account of this disease. The treatment is simple, and consists in removal of the hymen, incision of the vaginal orifice, and subsequent dilatation.

XXXII.—*Puerperal Fever.* By W. T. FOX, M.D., &c.

In this very elaborate paper Dr. Fox argues that puerperal fever is not a specific disease, or one *sui generis*, and that many similar diseases have been mixed up together under the head of puerperal fever, but that after eliminating all these there still remains the major part of cases which constitute puerperal fever, and which are identical with erysipelas.

XXXIII.—*Case of a Patient who, in Eighteen Pregnancies, gave Birth to only Seven Living Children; the Eleven others having been Expelled Dead at various periods of Gestation.* By W. NEWMAN, M.D., &c.

This paper was communicated by Professor Harley, who argued that the deaths of the children in this case arose from a want of formative power on the part of the mother, and that this should be recognised as a cause of death in many cases where other causes could not be demonstrated, and where the deaths were attributed to syphilis, though there was no evidence of its presence. The formative power, he said, was seen to diminish with each additional pregnancy.

XXXIV.—*Case of Abortion; Retention of the Ovum within the Uterus, and Growth of the Membranes for a period of Five Months after the Death of the Fetus.* By GRAILY HEWITT, M.D., &c.

XXXV.—*Knot on the Funis; in a Case in which the Child was born dead.* By W. SANKEY, Esq.

XXXVI.—*Instrument for the removal of Polypi of the Uterus*
By DR. TYLER SMITH.

This consists of a rod and winch, with a double canula, strong enough to carry wire and bear sufficient tension to cut through the neck of a polypus at once.

XXXVII.—*On a Case of United Children; or Double Monstrosity.*
By H. HANKS, L.R.C.P.Ed.

The children were joined from the top of the sternum to the umbilicus, but otherwise perfect; they measured $18\frac{1}{2}$ inches round the shoulders, and weighed $16\frac{1}{2}$ lbs. Shortly before five o'clock A.M., the head of the first child was extruded beyond the os externum. An arm being folded upon the left shoulder, Dr. Hanks drew it externally, to increase the space for the parts yet unborn, and made a gentle tension on the head; a little after six o'clock the mother was delivered of the two dead children, their trunks escaping simultaneously without lacerating the perineum. The recovery of the mother was as favourable as if it had been a single child.

XXXVIII.—*A Case of Peritonitis caused by escape of pus or putrilage from the Fallopian tube into the abdominal cavity, following on abortion artificially induced.* By ROBERT BARNES, M.D., &c.

Abortion had been criminally induced.

XXXIX.—*On Cauterization by Electric Heat in the treatment of certain Diseases of Women.* By ROBERT ELLIS, Esq.

XL.—*Case of Inguinal Hernia of the Right Ovary, successfully removed.* By A. MEADOWS, M.D., &c.

XLI.—*Inflammatory Disease of the Skin of the Head and upper part of the Body of an Eight Months' Fetus, with exudation of plastic lymph.* By GEORGE D. GIBB, M.D., &c.

We congratulate this young Society on being able to publish such a valuable volume of contributions at the close of the third year of their existence.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

TRANSACTIONS OF THE ASSOCIATION OF THE FELLOWS AND LICENTIATES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.^a

(Continued from Vol. xxxiii., p. 450.)

SESSION 1861-62.

FOURTH MEETING, FEBRUARY 19TH, 1862.

PROFESSOR OSBORNE, President, in the Chair.

Dr. MOORE read the following *Cases of Idiopathic and Tubercular Meningitis*—The cases I am about to bring before the Association are examples of idiopathic and tubercular meningeal affections occurring in children, and I do so, not for the purpose of recording any unusual or unobserved phases in connexion with them, but to show that these formidable affections are as distinct, and can be as well defined, as many other diseases in the nosology. At present the term hydrocephalus seems to cover all meningeal diseases, and, if we consider for a moment, we must conclude that this is, to say the least of it, a very vague epithet, dating from the effect, not the cause of the disease. These hydrocephaloid diseases (so called) are divisible into acute and chronic, and it is under the former division I propose to class “Idiopathic Meningitis,” and acute “Tubercular Meningitis,” and to adduce examples which, from symptoms and pathology, will tend to show them to be distinct and separate lesions, and capable of being diagnosed as such during life. The first case I shall detail is that of a female child, aged six years and a half (one of eight children, the others all healthy), who was admitted into Mercer's Hospital, on 31st

^a These reports are supplied by Dr. B. G. Guinness, Secretary to the Association.

December. On inquiry I learned this child had a fall on her head some months ago, from which she seemed to suffer no inconvenience at the time. Nine days before her admission, whilst engaged at play, she suddenly complained of headache, which was soon followed by vomiting; the bowels were confined, and, despite of all purgative treatment exhibited, continued in a constipated state till the child was brought to hospital. On admission, the child was restless, constantly screaming, and rolling her head on the pillow; she seemed evidently unconscious; the eyes were congested; pupils very sluggish, greatly dilated, and turned up as in sleep; the little patient was inwardly convulsed. I immediately ordered the head to be shaved, and a blister to be applied over the vertex, extending from ear to ear, one grain of grey and one of James's powder to be given every second hour, and the bowels to be relieved by enemata; beef tea to be given liberally day and night. Notwithstanding all treatment the child became almost continuously convulsed, and the case proved fatal on the 7th January.

The *post mortem* examination was made with the greatest care, and presented the following appearances:—Having detached the membranes from before backwards, we found the brain so soft and semi-fluid as to resemble (as regards its consistency) thick cream. On being removed, the bony structures were carefully examined, but no trace of caries or disease could be detected. This, to a certain extent, narrowed our field of inquiry. The appearance of the cerebral lobes, as seen through the glistening dura mater, was of a beautiful purple colour, evidencing intense hyperemia. On removing the dura mater the more minute and brighter red vessels became better defined; and at one spot on the top of the right lobe, close by the longitudinal fissure, a trace of pus, and here and there along the sinus, a few points of lymph were effused, the remainder of the superior and lateral lobes merely giving you a greasy feeling when the finger was passed over them. On carefully turning up the base of the brain, the pulpy softening was very remarkable, and its substance of a darker hue than natural, and, on looking attentively, dots of lymph could be seen effused around the base of the optic commissures, and on either side of the pons, but no trace of tubercle either in the fissure of Sylvius or in the sulci of the cerebellar lobes, but in these latter the arborescent appearance was beautifully delineated. In cutting into the brain substance no trace of tubercle could be found, each lateral ventricle contained about three drachms of fluid, and the brain generally was semi-œdematous.

Now, in this form of meningitis, which is comparatively rare, and its causes obscure, a child in apparent rude health, with a favourable family history, is suddenly prostrated, the symptoms are very acute, and the duration of the disease, relatively short, sometimes running a fatal course in three or four days, and occasionally extending over ten days or a fort-

night. The pathology of these cases shows general softening of the brain-substance, with ventricular effusion, but *no trace* of tubercle.

And now, for the purpose of contrast, I shall give you the details of a case in the adjoining bed to the one I have just read to you, which I believe to be one of tubercular meningitis, in which the symptoms were more subacute, and extending over a longer period, and in which the family history of the child tended to confirm our diagnosis of its scrofulous character.

James Mooney, aged seven years, was admitted into Mercer's Hospital on the 29th December last. His mother stated that about six months previous he had been seized with a fit, which had returned on three occasions; that she had three children, two of whom are dead, one of water on the brain, the other of hooping-cough. Before admission this boy complained of headache, attended with vomiting; he had a sluggish expression, with strabismus of right eye, the sight of which was much impaired. There was dilatation of both pupils, but especially the left, and ptosis of the left eyelid. He has been subject to staggering and giddy fits when walking, which have increased after each fit. The last fit was on Christmas-day. About six months ago, he had been a patient at the Institution for Children, Pitt-street, with the cerebral symptoms I have detailed, and in addition, a distinct friction-sound was audible over the base of the left lung. For this affection he was treated with biniodide of mercury and bark, the head was shaved and blistered, and the side painted with tincture of iodine.

On admission into Mercer's Hospital, the head was again blistered over the vertex, from ear to ear, and one grain of grey and one of antimonial powder was given him morning and evening. The blisters and powders were repeated, and the head dressed with mercurial ointment, till the 6th January, when he got the 32nd part of a grain of biniodide of mercury in syrup of bark, three times a day. This treatment was attended with very satisfactory results; he walked more steadily; the ptosis of left lid well nigh disappeared; strabismus of right eye sensibly improved, and the boy assumed a healthy look; he was allowed to leave the hospital about the 28th of the month.

Now in this case the symptoms were much more subacute than in the first mentioned; this generally serves to guide in the special diagnosis of the tubercular from the idiopathic meningitis, in which I have already shown the symptoms are usually very active. In short, in the tubercular form the symptoms may be nothing more than slight fever, and drowsiness ending in coma. Now, in this case it *fortunately* happened that we were deprived of pathological proof of the tubercular nature of the affection; but from fatal cases, in which the symptoms were subacute and otherwise analogous, I am enabled to detail the *post mortem* appearances, which occur, viz., the effusion of greenish tenacious lymph about the base of

the brain generally, small tubercular depositions in the pia mater, and effusion into the lateral ventricles, sometimes to the extent of several ounces. As regards depositions of tuberculous lymph, its most frequent seat is in the fissure of Sylvius. Again, as a rule in cases where tubercles are found in the membranes of the brain, even in the most minute proportions, similar depositions will be found in the other cavities, especially the lungs, but the converse of this condition will not hold equally, tubercular depositions occurring in the lungs and mesentery, and the brain remaining intact.

With respect to some of the symptoms attendant on the first case I have detailed:—The inward convulsions became very remarkable towards the close; each paroxysm attended with an extensive and semi-rigid condition of the extremities. I am aware that some deny the existence of inward convulsions, but any one who has carefully watched a case in which these inward involuntary twitchings and spasms occur, cannot fail to recognize them as identical with the more extreme convulsive seizures indicative of peripheral lesions of the brain. In this case also, the mucoid film became very remarkable over both eyes towards the close, the eyes remaining half closed, and becoming perfectly passive to external objects. This is a symptom of deep interest, pointing as it does to diminished nervous influence.

The fever attendant on tubercular meningitis is sometimes difficult to diagnose from that of the ordinary remittent or gastric type occurring in children; but I think the extreme irritability and sensitiveness of patients suffering from cerebral affections, coupled with a usually rigid retracted state of the abdomen, are sufficient to diagnose them from gastric affections, in which we usually meet with the abdomen full and soft, and a lax rather than constipated state of the bowels; and, in addition, we necessarily have not that painful sensitiveness on being touched or handled, usually present in the pyrexia of nervous diseases.

FIFTH MEETING, MARCH 19TH, 1862.

DR. CORRIGAN, President, in the Chair.

Rev. SAMUEL HAUGHTON, F.T.C.D., read the following paper:—

On the Use of Nicotine in Tetanus, and Cases of Poisoning by Strychnia.

ἐπ' ἀνθρωπέιου δὲ σώματος πειρᾶσθαι τῶν ἀπειράστων οὐκ ἀσφαλὲς εἰς
ὄλεθρον ὕλου τοῦ ζώου τῆς κακῆς πέρας τελευτώσης.—GALEN.

On the 29th of November, 1856, I laid before the Royal Irish Academy the results of some experiments made by me as to the physiological action of Nicotine and Strychnine on frogs. These experiments are published in the Proceedings^a of the Academy, and appear to show that these two

^a Vol. vi., p. 420. 29th November, 1856.

alkaloids exert effects counteractive of each other, at least on frogs. In the *Medical Times and Gazette* of the 12th of January, 1858, a case is published by Dr. Thomas O'Reilly, of St. Louis, Missouri, in which a serious case of poisoning by strychnine was successfully treated by the use of infusion of one ounce and two drachms of dry tobacco leaves, which was administered at intervals of five minutes, and with the result of completely resolving the muscular spasms, when half the above-named quantity had been given, and a complete cure was effected by the cautious continuance of the infusion. In this case six grains of strychnine had been taken.

It occurred to me, on reading this case, that nicotine might be usefully employed in cases of tetanus, as well as in cases of strychnine poisoning. I had an opportunity of testing the truth of this conjecture in two cases that occurred in this city in 1860 and 1861: the one, a case of traumatic tetanus; and the other, a case of idiopathic tetanus. I consider that both cases were satisfactory, in proving the utility of nicotine in counteracting tetanic spasms; although, in the first case, the man was moribund when the nicotine was given, and the original injury was so serious and extensive that no human power could have saved his life.

I am indebted for the opportunity of experimenting on the first case to the kindness of Mr. S. A. Cusack and Dr. Croker, of Dr. Steevens' Hospital, who were present, and can testify to the remarkable effects of the nicotine; and I owe the opportunity of using nicotine, in the second case, to Dr. Alfred Hudson, who was physician to the Adelaide Hospital at the time the case occurred in that institution. Mr. Alexander Preston recorded the case in Dr. Steevens' Hospital; and the excellent notes of the case in the Adelaide Hospital were written for me by Mr. Anthony H. Corley, who was a pupil of the hospital.

CASE I.—*Traumatic Tetanus, treated by Nicotine.*—Patrick M'Garry, aged 34, a farmer, was admitted into No. 1 Ward, Dr. Steevens' Hospital, on the 29th of January, 1860, suffering from a severe and extensive burn. On Sunday morning, the 29th, at three a.m., on his way from Blanchardstown, his native place, to Dublin, he lay down on the wall surrounding a linekiln to sleep, which he did for two hours, but at five o'clock, by some mishap (according to his own statement, uninfluenced by drink), his lower extremities and hands came over the pit of the kiln, and were dreadfully burned. A stranger coming to the place at the time, found him almost in a state of suffocation; he immediately took him to his own house, and sent for Dr. Maguire, medical officer of the Castleknock district, who had him conveyed to Dr. Steevens' Hospital, where he arrived a little before noon, at which time Dr. Hamilton saw him, and ordered the parts injured to be thickly spread over with dry flour, and cotton to be laid over this, so as to exclude the air as much as possible,

On examination, the injury was found to occupy a very large extent of surface. Both legs, both feet, and both hands, with the penis and scrotum, were found to be implicated; the muscles, fascia, and soft parts of the feet and legs in particular, were in a very bad condition; the left limbs were more severely burned than the right, a fact which is easily accounted for by the way in which he lay at the kiln. The constitutional symptoms in his case were:—Collapse, drowsiness, thirst, delirium, and repeated and violent rigors; the surface was pale, and extremities cold; pulse feeble, 88 to 90; heart-burn was experienced; and at a later period continual twitching of the muscles, with violent spasm of same, followed finally by well-marked tetanus. He had no vomiting, and after the 3rd of February did not complain of pain.

3rd February.—He complains of severe stinging pains, running from the pit of the stomach and pelvis to the toes; and this day showed the first tendency to delirium, and rigors, which last from 30 to 40 minutes; pulse 88, and feeble. He is annoyed by disagreeable heart-burns. Took castor oil this morning, which had good effect.

6th February.—Last night the slough began to separate, and this morning he was seized with tetanus, almost closing his mouth, and rendering it impossible for him to open it wider than would admit a spoon; it has to be kept open by a plug of wood. In other respects he has been much the same since the 3rd.

8th February.—He is in a very dangerous state to-day: at intervals of about an hour each he has a very violent spasm.

At 8h. 40m. a.m. he was visited by Professor Haughton, at which time his pulse was 130. Mr. Haughton gave him one drop of nicotine (0.6 gr.). This had the effect of lowering the pulse to 105 at 9h. 5m. a.m., and of rendering the respiration fuller and less frequent; and at 9h. 50m. a.m. the nicotine had lowered the pulse to 92–88.

At 10h. 55m. a.m. he got one drop of nicotine. Before this the pulse had been 112; shortly after the dose it fell to 92.

At 12h. 20m. p.m. had a very violent spasm; and at 12h. 55m. p.m. got one drop of nicotine. The pulse had been 116, and was lowered, as before, by the nicotine.

At 1h. 40m. p.m. had a very violent spasm, pulling his bedclothes with all his might.

At 1h. 50m. p.m. pulse very quick, and intermitted, ranging from 112 to 150.

At 2 p.m. pulse 112. For the last 20 minutes his breathing has been very rapid, and greatly impeded, owing to mucous deposited in the bronchial tubes, for the absorption of which he has iodine rubbed over the upper part of the chest.

At 2h. 10m. p.m. had a very violent spasm, just before which he was conscious, answering indistinctly when spoken to. In addition to the tetanic

spasms, he has had continual twitching of the muscles yesterday and to-day.

At 2h. 40m. p.m. had a very violent spasm.

At 2h. 45m. p.m. expired.

The effects of the nicotine observed in this case were the following :—

1. The immediate relaxation of the spasm of the muscles of expression, of respiration, and of deglutition.
2. The cessation of delirium, and feeling of relief from agonising pain.
3. The lowering of the pulse from 130 to 88 per minute.

These effects succeeded the administration of the nicotine up to the last moment, and by the use of this alkaloid the unfortunate sufferer was spared a most painful death, and allowed to die quietly of double surgical pneumonia, consequent on the extensive surface injury, instead of dying in torture by tetanus.

CASE II.—*Idiopathic Subacute Tetanus, caused by exposure to cold; treated by Nicotine.*—Arthur Kershaw, aged 40, Gardener, was admitted into the Adelaide Hospital, January 2nd, 1861, under care of Dr. Hudson. He stated that the nature of his occupation exposed him to all kinds of weather, and consequently he received several severe wettings during the past winter. The last of these occurred a short time before Christmas. He did not experience any immediate ill effects from that wetting; but early on Christmas Day, whilst standing beside the canal looking at the skaters, he was suddenly seized with cramps and pains in his lower extremities. He described these sensations as commencing in the loins and passing downwards, both in front and behind, as low as his knees. This attack was not very severe, lasted about an hour, and when it was over he was perfectly free from pain. The same night he had another attack precisely similar to the first but rather more severe. From that time the spasms increased both in frequency and intensity, but did not occur with any degree of regularity. On the day of his admission he was able to walk from his residence to the Dispensary, a distance of about half-a-mile. He was late, however, for admission, and on going home he was again seized with the spasms and obliged to take a car. That evening he became so much worse that it was necessary to have him conveyed to Hospital. It was subsequently ascertained that the different members of the patient's family, as well as himself, had been remarkable for possessing less than ordinary mental capacity; one of his brothers having been epileptic, and subject to attacks of furious mania. In one of these paroxysms, which occurred about sixteen years ago, he struck our patient on the head with a spade, knocking him senseless, and inflicting a severe wound. There was no evidence of fracture, and the wound soon healed. From that time, however, he became subject to a feeling of weakness in his head, never amounting to absolute pain, and never causing any inconvenience except preventing him from bearing any

weight on his head; such, for instance, as a heavy hat, and obliging him to keep his head cool. This sensation was not increased by drink. On the succeeding morning, when seen by Dr. Hudson, his condition was as follows:—He was lying on his face in bed, his legs and thighs forcibly extended and fixed. The erector spinæ muscles, the glutei, and those of his thighs were spasmodically contracted, hard, and rigid. The adductors and tendons of the hamstrings in particular, stood out like tense cords, and the muscles themselves could be seen quivering under the skin; this condition was next manifest in his left thigh, and he said it had been so from the commencement of the attack. His legs, however, were not affected; his abdomen was tense and hard, and he complained of pain about the ensiform cartilage, caused, apparently, by the spasms in the recti muscles. Slight relaxations occasionally took place, but, during the time he was being examined there was no complete remission; pressure over the spines of the superior lumbar vertebre appeared to cause slight pain, but did not increase the spasms. The agony he suffered during the occurrence of these appeared to be excruciating. In the partial intermissions that took place, he was able to describe his sensations, and it was thought, from the manner in which he said he walked, that his left leg was paralyzed. He stated that his appetite had been good up to the previous day; that his bowels had been regularly moved; and that he had passed his urine without any inconvenience.

He was ordered to be cupped on either side of the tender part of the spine, to have hot stupes applied immediately afterwards, and to take the following every hour—a powder containing one twelfth of a grain of calomel, and a grain of James' powder.

At one o'clock the same day, after he had been cupped, his pulse was 84, full and labouring; the spasms were as severe as in the morning, but not so frequent. When they occurred he obtained most relief by being placed on his feet and allowed to sink gradually on his knees. It then became apparent that the inability to move his left leg which he had spoken of in the morning arose, not from paralysis, but from rigidity of the entire limb. At seven o'clock in the evening he seemed quieter; the spasms were more frequent but not so severe.

January 3rd. The spasms and pains continued without diminution; they occurred so frequently and with such violence during that night, that he was unable to obtain any sleep. They had extended this morning to his legs, the muscles of which had become as hard and rigid as those of his thighs and abdomen. He was observed to hiccup once, and he stated that he had done so two or three times during the night. His pulse was 96, but very irregular, both in rhythm and fulness. The powders were ordered to be omitted and the following pills to be substituted—calomel and James' powder, twelve grains; extract of belladonna, four grains; extract of hyoscyamus, a scruple. To be divided into

six pills, and one to be taken every third hour. A fetid and terebinthinate enema to be administered immediately, and a long narrow blister to be applied on either side of the spine. At seven o'clock he was asleep, and it was not judged expedient to awaken him.

January 4th.—There was no appreciable alteration in the character or situation of the spasms. The patient appeared weaker, but said he suffered as much agony as ever. There was a permanent flush on his cheeks and forehead. His pulse was 120, but regular. He said he had hiccupped several times during the night, and he was frequently observed to gulp, as if flatus were coming off his stomach. The enema had produced several copious evacuations. The pills to be repeated, with the extract of belladonna increased to one grain in each. The blistered surface at the spine to be dressed with an ointment composed of 4 drachms of muriate of morphia to 4 drachms of lard; 1 drachm of mercurial ointment to be rubbed in at the inner side of each thigh. Subsequently Dr. Duncan saw him, in conjunction with Dr. Hudson, and the patient's tongue being found brown, dry, and fissured, he was ordered the cardiac mixture, 2 ounces to be taken occasionally; brandy to be administered, if necessary, and a large, hot, bran poultice to be applied to the spine.

January 5th.—During the night the patient became suddenly delirious, and afterwards passed into a state of coma, from which he was aroused by the administration of stimulants. Sinapisms were subsequently applied to the soles of his feet. In the morning he appeared quiet, and did not complain of much pain, but the spasms continued, with very slight occasional relaxations. Although not delirious, he was not quite rational, and sometimes spoke rather unconnectedly. His tongue was not so brown or dry as on the preceding day. His pulse 100, regular, but weak, and his pupils slightly dilated. His pills were stopped, and others substituted, containing calomel, camphor, antimonial powder, and extract of hyoscyamus, of each one grain, of which he was to take one each second hour.

January 6th (Sunday).—He appeared somewhat better, but spoke so incoherently, that it was impossible to ascertain how he felt. The condition of his limbs, however, was unchanged. His pulse 96. He had been very unmanageable during the night; got out of bed, and attempted to stand, but fell, striking his back against the rail of the adjoining bed.

January 7th.—The delirium was increased, pulse 84, tongue moist, but rough and white in the centre. The rigidity of his limbs was not in the slightest degree diminished. He had been very violent during the night; got out of bed, and insisted on lying on the floor. A severe purging had come on, and there was a mercurial fetor from his breath. The urine which he had passed on Saturday, having been kept in a glass vessel, was examined, and it presented a very striking appearance. There was a copious sediment deposited, consisting of two distinct strata; the lower

and larger of the two, whitish in colour; the upper a very thin purplish layer. The supernatant fluid was high coloured; alkaline in reaction, and it exhaled a very strong ammoniacal odour. A drop of this, the sediment having been previously stirred up, was examined under the microscope, and crystals of the ammoniaco-magnesian phosphate, in large quantities, were observed.

January 8th.—The preceding night it was found necessary to remove him into a ward by himself, in consequence of the violence of his delirium. During his removal, the muscles of the upper part of his back and those of his neck showed a tendency to participate in the spasmodic action. This was manifested in a slight attack of opisthotonos, which lasted for a couple of minutes. An enema of morphia in decoction of starch was administered, and a blister was applied to the nape of his neck. After these measures, he became quiet, but there was no relaxation in the spasms of his limbs. When seen in the morning, he was quite delirious; speaking loudly and continuously, and not ceasing even when spoken to. He continued in that state from five o'clock in the morning until noon, when he gradually became quiet. His pulse was 84.

At the suggestion of the Rev. Professor Haughton, Dr. Hudson determined to try the effect of nicotine. That medicine was, therefore, administered four times during the day, according to the former gentleman's directions, and with the following results:—At two o'clock, the patient, having sunk into an uneasy sleep, was awakened. Half a drop of nicotine, which is equivalent to three-tenths of a grain, was administered in 2 drachms of wine and water. His pulse was 80, but rose within ten minutes up to 88. At half-past three, when he was next visited, his pulse was 78, and he was bathed in a profuse but clammy perspiration. At half-past five, his pulse being still 78, the nicotine was repeated in the same dose. The pulse shortly afterwards rose to 100, and it was beating at that rate at six, seven, and eight o'clock. Immediately after the administration of the first dose, the abdominal muscles became manifestly relieved, and the abdomen rose and fell to a nearly natural extent in breathing. The muscles of the limbs, however, were still rigid. Towards the evening he became quite rational, and when visited at half-past eight, he was sleeping calmly. When awakened, he was in perfect possession of his senses; his pulse 78; his tongue white, but moist, and his pupils, which had been much contracted during the day, were dilated to a natural extent. His urine was tested and found neutral, but when allowed to stand for some time, phosphates in abundance were deposited. At nine o'clock he got the third dose, but this did not affect his pulse, which remained at 78, until midnight. He then got the fourth dose, and shortly afterwards his pulse rose to 80, and did not alter during the night.

January 9th.—This morning he appeared improved in every respect. He had slept well, and there had been no return of the delirium. Although he still complained of pain during the presence of the spasms, he said it was not nearly so severe as before, and the intervals between the spasms were growing much longer. He seemed unwilling to move his arms, or stir himself in any way, as he said that the least motion sometimes brought on an attack. His abdomen was soft, and nearly natural, but there was no appreciable change in the state of his limbs. The profuse sweating still continued. At 11 o'clock he got the fifth dose, his pulse being then 86. The sixth was administered at five o'clock, the seventh at eight, the eighth at midnight; his pulse, during the day and night, ranging from 78 to 82. From the time that he became rational, his strength was kept up by beef-tea and small quantities of brandy, administered at intervals during the day.

January 10th.—This morning the improvement in his condition was remarkable. He could move his arms freely, without inducing the spasms. These seldom attacked him, and even when they did, the pain, in comparison to what he had suffered, was trivial. He was able to move his legs and bend his knees a little for the first time. His spirits rose, and he began to feel hopeful. During the intermissions the muscles of his legs were perfectly relaxed, and those of his thighs were not quite so tense as they had been. The sweating continued, and he said his appetite was returning. The dose of nicotine was increased to three-quarters of a drop, or nearly half a grain; and the first of these altered doses was given at 11 o'clock a.m., his pulse being 90. In half an hour it was 96. At two and at five, when he got the second and third doses, it was still 96. At eight o'clock he was not so well as in the morning. The spasms had become a little more frequent and painful, but yet not anything like so severe as they had been; and during the intervals the muscles, even those of his thighs, were perceptibly softer and less rigid. He seemed somewhat depressed and anxious, and complained greatly of thirst: his pulse had risen to 100. The medicine was administered every three hours during the night. Immediately after each dose the pulse rose to 100, but in a short time fell to 92.

January 11th.—There was further improvement this morning. The muscles of the abdomen and legs were quite soft and flaccid, and those of the thighs becoming gradually relaxed. There had been no return of the spasms from 12 o'clock the preceding night. The sweating still continued, and exhaled the peculiar snuffy odour characteristic of the nicotine. The power of moving his limbs was increasing. As he complained of being tired of the beef tea, it was ordered to be omitted, three eggs daily to be substituted for it; and stirabout, for which he expressed a desire, was ordered. His brandy was discontinued, and the nicotine ordered to be given in plain water. The next dose, the ninth of the increased quantity,

was given at half-past four; and at half-past seven it was repeated, his pulse being 98. Up to that time there had been no return of the spasms. His bowels not having been moved for some days, a laxative enema was ordered.

January 12th.—He was not so well this morning. The sweating had ceased, and his pulse was 120. He had had only one or two spasms, and they were not severe, but he appeared nervous and anxious. The angles of his mouth were drawn slightly backwards, giving his face a peculiar expression. The fact of the cessation of the sweating being coincident with the discontinuance of the stimulants, suggested the idea that the nicotine required to be combined with these, in order to exert its full constitutional effects. The brandy was, therefore, again ordered, and the nicotine to be given in sherry in the following proportions:—Twelve drops were mixed with two ounces of wine, of which one drachm was to be taken every three hours; the dose being, therefore, thirteen-sixteenths, or, in round numbers, three-quarters of a drop. At half-past six in the evening, the medicine having been regularly administered, with the stimulants, he was again improving: his pulse down to 96, and his skin moist and soft.

January 13th (Sunday).—His pulse was 100, but he was in every other respect still improving.

January 14th.—He felt himself much better, was able to move his legs and bend his knees to some extent. In the evening the muscles of his thighs and abdomen became a little more tense than they had been for some days, but he did not complain of pain. His pulse during the day ranged from 92 to 108, and at half-past seven it was 102. He was then quiet, and inclined to sleep. The dose of nicotine to be reduced one-half.

January 15th.—His face had regained its ordinary expression, and he could move his limbs more, but he did not like to do so, as it gave him some pain, and appeared to require great exertion. His pulse varied from 88 to 100.

January 16th.—This morning he had still more power in his limbs, and said he felt much better. There was, however, an anxious expression in his face, and he did not speak naturally, or with as much distinctness, as he had done previously.

January 17th.—The nicotine to be administered only three times a-day.

January 18th.—The general improvement was becoming more and more evident, and he was making inquiries as to when he would be allowed to get up. His pulse maintained the same character and variations.

January 19th.—He was able to sit up in bed. He got one dose of nicotine, and then the medicine was discontinued.

January 20th.—He was allowed to get up for the first time. He expressed himself as feeling very well; was able to stand without assistance, and could walk a step or two by holding on to the rail of his bed. A glass and a-half of brandy to be taken during the day.

January 21st.—He was up and moving about for some time.

January 22nd.—Feeling rather fatigued from the preceding day's exertions he remained in bed this day.

January 23rd.—No perceptible change; but he said he was getting gradually better. He had not been attacked by the spasms for several days, but still the muscles of his thighs were by no means completely relaxed, the adductors and hamstrings particularly.

January 24th.—Two strap-shaped blisters were ordered to be applied, one on either side of the lumbar spines; and he was desired to take five grains of iodide of potassium in a wine glassful of compound decoction of sarsaparilla, three times a day.

No circumstance worthy of note occurred during the remainder of the week. On Saturday the 26th, he was up and walking about the room, but was obliged to use a stick to support himself. The muscles of his thigh were still stiff, but there was an entire absence of pain. The discontinuance of the nicotine did not appear to produce any material change on his pulse, which ranged from 90 to 100 during the week. The sweating continued, but not anything like as copiously as during the administration of the nicotine. During the succeeding week there was gradual but decided improvement. On Saturday the 2nd of February, he was able to walk remarkably well, and all he complained of was a slight stiffness about his knee joints. All his muscles, even the adductors and hamstrings, were perfectly relaxed, soft and flaccid.

He was discharged from hospital on the 6th of February, and the only inconvenience which he complained of was the stiffness in his knees, which was then rapidly diminishing. In all other respects he declared himself perfectly recovered.

The quantity of nicotine given to Kershaw, from the 8th to the 19th January (11 days), amounted to 44 drops, or 26·4 grs.

The following statements as to the physiological effect of this alkaloid, when combined with minute doses of alcohol, appear to be borne out by the details of the case:—

1. It produced immediate relaxation of the muscles of the abdomen, back, and diaphragm.

2. It caused cessation of delirium.

3. There was a slight tendency to cause increased circulation, to the extent of 10 beats per minute.

4. It caused profuse sweating, which exhaled an intolerable odour of snuff, not of tobacco.

5. It had a tendency to produce deep sleep.

6. It failed to control quickly the adductor muscles supplied by the obturator nerve; and even when the hamstring muscles gave way, the adductors refused.

I became aware, after I had used nicotine in the two preceding cases,

that tobacco enemata had been employed successfully by the late Dr. O'Beirne,^a of this city, in the treatment of traumatic tetanus. Dr. O'Beirne was induced to employ tobacco, from its known power in overcoming constipation and destroying worms, as well as from its control over the nervous system.

Hippocrates distinguished between traumatic and idiopathic tetanus, pronouncing the former fatal (*θανάσιμος*), and stating that sufferers from the latter would recover, if they survived the first attack for four days. I believe that most practitioners would substitute 20 days for four days, at least, in our latitudes. He appears also to have distinguished between tetanus accompanied by opisthotonos, and by emprosthotonos, using venesection in the former case; and hot stupes with wine internally, in the latter.

Areteus invented the terms, Opisthotonos and Emprosthotonos, and considered the causes of tetanus to be either a wound (including abortion in a woman), or exposure to extreme cold; and used the same remedies as Hippocrates, superadding cupping at each side of the occiput, and purgative enemata—his method of stuping is one that might, possibly, with advantage, be revived among us, viz., by means of warm oil applied in bladders of animals, half filled, so as to lie flat on the surface of the limbs, and take their shape.

Galen, in his book on Rigors, chap. viii. states, that he considers spasms in the muscles, such as occur in tetanus, to be the result, either of too great humidity or too great dryness, acting upon the nerves that influence the muscles. "Consider, therefore," he says, "that the nerves and tendons in the bodies of animals may either be distended by superfluous moisture, or dried up by causes promoting exsiccation, so that they reach that degree of tension at which voluntary motion takes place in those that are healthy."

"Thou knowest, indeed," he adds, "that it is allowed by all that there are three kinds of this affection—the first, which is and is called Emprosthotonos, the second, Opisthotonos, the third, Tetanus. . . . The spasms which arise from dryness (*ξηρότητι*), thou shalt never heal, for those thus affected, die presently, not even allowing time for devising a remedy; but the spasms that arise from repletion or inflammation (*διὰ πλήθους ἢ φλεγμονῆς*), these thou can'st heal, by evacuating the repletion, and by curing the inflammation by its appropriate remedies."

The distinction here drawn by Galen is perfectly just, although not expressed in modern language, and is, perhaps, as intelligible as the "explosions of the animal spirits" to which tetanus was ascribed two hundred years ago, or as the contraction by polarity, by which some moderns think to explain this mystery, *obscurum solventes per obscurius*.

^a Dublin Hospital Reports, Vol. iii., 1822, p. 343.

Of the remedies proposed for tetanus, the venesection of Hippocrates has no chance of trial, until time shall have exploded our prejudice against blood-letting; and if we believe, with Galen, that it is an acute disease of the nervous system, our choice of remedies must lie among the vegetable alkaloids. Of these, certainly, Nicotine and Belladonna are the most likely to succeed; and nicotine, if used, should be employed as such, and not in infusion of tobacco leaves, in which its properties are masked by the action of two or more vegetable oils, the operation of which on the nervous system is unknown.

CASE III.—*Attempted Suicide with Strychnine; Treatment with Nicotine (Tobacco); Recovery.*—Within the last few days a serious case of attempted suicide with strychnine, has been treated successfully in the Meath Hospital by Dr. P. C. Smyly, with tobacco, after the manner so well applied by Dr. Byrne in the celebrated case at Cincinnati, U. S., A. I shall give the narrative in Mr. Smyly's words, adding little by way of comment:—

Thomas Cuddy, aged 15, was apprenticed to a druggist about a year ago. He did not like the business, and ran away. His father brought him back, and set him to work again. He has always borne an excellent character. He on several occasions told his parents that he did not like his trade. As they did not attend to his wishes, he made up his mind, on the morning of Tuesday, 11th March, to make some change for himself in his circumstances. At about half-past eight of the same evening, he took down the strychnine bottle from the shelf, shook out on his hand about as much as would cover a shilling (his own account), swallowed the whole of it, and then ate a quantity of raisins, to take away the bitter taste from his mouth. One of his fellow-shopmen having seen him, ran and told his master, who was at his tea, what had occurred. The boy denied having taken anything, and went on with his work as usual. In about from 20 to 40 minutes he felt his legs getting stiff, walked to the end of the counter, and fell backwards with a jerk into his master's arms, crying out, "I did take it; oh! turn me on my back." He had eaten a full meal of potatoes and meat at half-past four o'clock. An apothecary was at once sent for. His assistant came and administered about three grains of tartar emetic, without exciting vomiting. The apothecary then arrived, and put the boy under the influence of chloroform, "to facilitate his removal into the hospital, the spasms were so violent."

The resident pupil, Mr. J. Foot, gave him some sulphate of zinc. This having no effect, was followed by a mixture, consisting of an ounce and half of mustard, vin. ipecac. 3 drachms, and a pint of warm water. Only a few mouthfuls of this were ejected!!^a

^a The stomach pump was tried, but the pipe was stopped by the portions of potato he had eaten for his dinner.

When I arrived, at 10 15 P.M., he was lying on his back, his head thrown back, chest raised and fixed, limbs rigid, hands clenched, eyelids spasmodically closed, and corneæ turned upwards. The priest told me, that during the administration of the last rites of his church, the boy was seized with a sudden spasm, which threw a tin tray with some violence into the air; the tray was resting on his abdomen. I had an infusion of tobacco made, by pouring a pint of boiling water on about an ounce of cut Cavendish, heated over the fire, and strained; cold water was then added until the liquid was tepid. I made him drink two-thirds of this. Furious vomiting followed instantly. He swallowed the rest, with same result. The stomach appeared to be completely empty. He lay quietly on his back for about five minutes, when he was seized with a violent spasm, and quivering of the whole body, then complete opisthotonos and clenching of the hands. At about the middle he gave two short screams, as if he was in intense pain. I gave him another pint of the infusion in three doses, all followed immediately by vomiting. Another pint was prepared from the same ounce of tobacco; about a tea cupful of this was retained in the stomach for about five minutes; a second was retained somewhat longer. Profuse sweating now commenced, and he slept for a short time. I left him for about half an hour. On my return I found him lying quietly on his back; all his muscles, except those of the legs, relaxed, breathing less rapid, pulse slower, soft, and rather weak. I turned him on his side (which he was afraid to do himself). He drew up his knees, put his hands under his head, and went to sleep. The night nurse says he only turned once during the whole night to ask for a drink.

Wednesday morning.—Appears weary, and rather sulky. Hamstrings^a still hard and stiff. Pulse 120.

Thursday.—All his muscles relaxed; complains of some tenderness along the spine; appetite returning.

It appears to me clear, from this case, that the tobacco produced two important effects:—

1st. It produced vomiting, when all other means had failed, and so saved the patient from the yet future effects of the strychnia remaining undissolved in his stomach.

2nd. The physiological effect of the nicotine absorbed by the system, counteracted that of the strychnia already absorbed, as in the Cincinnati case, and as in the case of my own experiments on frogs.

From the statements of the boy to myself, checked by comparison with

^a *Note added by Professor Haughton.*—This obstinacy of the hamstring and adductor muscles appears remarkable, when considered in connexion with the similar tension of these muscles, which was observed in the case of idiopathic tetanus already given. It would almost appear as if the controlling power of the nicotine were limited to a certain tract of the spinal cord, and did not extend below it.

a known weight of strychnia, I estimate the quantity of the poison taken by him at four grains. The case itself furnishes a powerful argument in favour of the introduction of Nicotine into the Pharmacopœia, as the dose of this alkaloid might be regulated with any required degree of precision; whereas the strength of a decoction, or infusion of tobacco, is almost entirely unknown. Too much credit can scarcely be given to Mr. Smyly for his promptitude and courage in administering the only known remedy; but, at the same time, it cannot be denied that dangerous consequences will probably arise from the use of tobacco in such cases, as the strength of the remedy employed is unknown, and its own effects upon the system are only second in violence to those of the strychnia it is employed to counteract.

In concluding this paper, I have thought it useful to bring together, in one table, several of the best observed cases of strychnia poisoning, so as to show the dose, the interval till the first spasm, and the interval till death, when fatal. In forming this table, I have largely availed myself of Dr. Alfred S. Taylor's work *On Poisoning by Strychnia*. 8vo. London, 1856: p. 78.

Physiological Phenomena accompanying Cases of Poisoning by Strychnia.

Case	Authority for Case	Age and Sex	Dose		Interval till first Spasm	Interval till Death
			Grains	Minutes	Minutes	Minutes
1	Booth and Bardsley— <i>Medical Times and Gazette</i> , July, 1856,	46 M.	1.50	—	165	
2	Blumhardt— <i>Lancet</i> , 7th January, 1838,	17 M.	40.00	15	90	
3	Bennett— <i>Lancet</i> , 31st August, 1850,	13 F.	1.50	60	150	
4	Watson <i>Edinburgh Monthly Journal</i> , December, 1845,	12 F.	0.75	20	65	
5	<i>Cormack's Monthly Journal</i> , February, 1846,	26 M.	3.00	20	105	
6	Theinhardt— <i>Casper's Wochenschrift</i> , 28th February, 1846,	M.	30.00	15-20	30	
7	Warner— <i>Br. Am. Journal</i> , August, 1847,	39 M.	[0.50]	[5]	[14-20]	
8	<i>Pharm. Journal</i> , 1848, vol. ii., p. 298,	F.	3.00	5-10	75	
9	<i>Med. Times and Gazette</i> , 28th April, 1855,	12 F.	1.00	—	90	
10	Lonsdale— <i>Ed. Mon. Journal</i> , 1855,	59 M.	1.50	30	60	
11	Geoghegan— <i>Dub. Med. Press</i> , 25th June, 1856,	26 M.	5.00	15	25	
12	J. B. Wilmot— <i>Med. Times and Gazette</i> , 8th March, 1862,	18 F.	—	15	35	
13	P. C. Smyly— <i>Dub. Med. Press</i> , 19th March, 1862,	15 M.	4-5	20-40	—	
14	J. P. Cook—Murdered by Dr. Palmer, 20th November, 1855,	28 M.	—	75	75	
15	Lawrie and Cowan, 1853— <i>Taylor's Med. Jurisp.</i> , 7th edit., p. 208,	—	—	90	—	
16	Anderson, 1848, Do. Do.	—	—	150	—	

POSTSCRIPTUM.

CASE IV.—*Traumatic Tetanus—Recovery.*—Since reading the foregoing paper, I had an opportunity, through the kindness of Mr. Tufnell, of trying the effect of nicotine in a case of traumatic tetanus (John Dobbys) in Baggot-street Hospital.

Mr. Tufnell writes, 16th March:—"The tetanus case has been fairly tried under chloroform, and will, I think, not do well under it. The nicotine will, therefore, if successful, be entitled to full credit."

The case was one of compound fracture of the right radius, and will be published in full by Mr. Tufnell; I, therefore, only give the following facts respecting the effects of the nicotine:—

^a Sulphate of Strychnia.

The first dose of nicotine (one drop) was given on Sunday evening, 16th March, and produced rapid relief of the spasm of the muscles of the neck, chest, and abdomen, followed by profuse sweating; and the patient expressed himself as being much relieved.

From the evening of the 16th till the morning of the 18th nicotine was given, in doses of 1, 2, and $2\frac{1}{2}$ drops, in sherry and water, according to the urgency of the tetanic spasms. After the administration of the dose, in three minutes, the spasm was gone, and the muscles relaxed, and profuse sweating, accompanied by a smell of snuff, set in.

On the 19th the nicotine was not given, but was resumed on the 20th and 21st, with the same beneficial results as before. From the latter date to the present time (4th April) it was not found necessary to give nicotine, and the patient is now gradually recovering.

During the four days on which he was treated with nicotine, he received, by the mouth and rectum, altogether 54 drops= $32\frac{1}{2}$ grains; and the physiological effects appeared to be the same, whichever way the alkaloid was exhibited.

CASE V.—*Tetanus (Idiopathic) in a Horse treated by Nicotine.*—Dr. Barton has favoured me with the following account of the use of nicotine, injected into the cellular tissue of a horse's neck. Although the case terminated fatally, it is instructive, as showing the physiological action of the nicotine in this animal. There appears to have been the same effect in relaxing spasm, and relieving respiration, that is observed in man:—

A grey horse, 11 years of age, was driven 40 miles in a car upon the 1st of Jan., 1860, and driven back the same distance upon the following day. Upon the morning of his return, at starting, it was noticed that he was stiff—"going wide in hind legs." Next morning he could not turn in the stall, and was quite stiff. Was not attended to, and got worse. Sent in on the 6th to Mr. Martin, veterinary surgeon, in Peter-street, who found him in the following state:—Hair standing all over his body; muscles of neck and trunk rigid; belly retracted; legs stiff, and separated; nose protruded; unable to open his mouth more than about an inch; frothing at mouth; bowels moved scantily. Mr. Martin gave him a ball, which had moved the bowels. When I saw him I determined to try the nicotine solution. We employed it in the following way:—

Jan. 11th.—Gave him 20 drops of the solution of nicotine in an injection, with croton oil.

Jan. 12th.—Gave him 10 drops twice in his bran mash, but he only took some of it.

Upon the next day I injected beneath the skin of the neck about the same quantity—20 drops. During this treatment his muscles became decidedly softer, and he moved his legs better. His respiration became hurried, and he died upon the night after the injection. After death the muscles were not rigid.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY
OF DUBLIN.^a

TWENTY-FOURTH ANNUAL SESSION—1861-62.

DR. BANKS, President.

Oblique Fracture of the Femur.—DR. BENNETT exhibited a specimen of oblique fracture of the lower third of the thigh bone. He obtained the specimen in the dissecting room of Trinity College last winter, and knew nothing of its history.

The subject from whom the bone was taken, was an old woman, and it was evident, both from the condition of the limb, and from the complete union of the fracture, that the injury had occurred a considerable time before the death of the subject. The direction of the line of fracture was from before downwards and backwards, and also from without inwards—the reverse of the direction common in fractures of the lower third of the thigh bone. The lower fragment of the bone was, in consequence of this double obliquity of the line of fracture, thrown in front and to the outer side of the upper, overlapping it to a considerable extent. The most remarkable feature of the displacement was, however, the rotation which had occurred in the lower fragment; it was rotated on its long axis inwards to such a degree that, when the bone was placed on a table, so that the head and lesser trochanter rested on the table, the intercondyloid notch looked directly outwards. This triple displacement of the lower fragment was exactly the reverse of that which is seen in ordinary cases, in which the lower fragment passes behind, and to the inner side of the upper, and is rotated outwards by the action of the muscles on the inside of the thigh. The direction of the obliquity was evidently the cause of the first two characters of the displacement, but the third did not admit of so easy an explanation, as it must have occurred in spite of the action of the muscles on the inside of the thigh; the most probable explanation of it was that it was the upper fragment which had rotated, not the lower. This was the result of the pressure of the inside of the lower surface on the outer side of the upper surface of the fracture. This explanation was borne out by the fact, that, in the recent condition, the foot of the subject though inverted, was not so to the degree which the bone would lead one to expect. The number of cases of this form of displacement on record are very few, only four, which are to be found in a recent American work on fractures, by Professor Hamilton.—*January 25, 1862.*

Peritoneal and Mesenteric Tubercular Disease.—DR. MOORE made the following communication:—Ellen Blye, aged 7 years, was admitted into

^a These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

Mercer's Hospital on the 3rd February last. She had two sisters and one brother, but they died of small pox when young. About a year and half ago this patient had measles, after which she complained of pain in the right lumbar region, with loss of appetite. From this date her bowels have been very irregular; at times diarrhea persisting; again for days obstinate constipation. On admission her general appearance was anemic in the extreme, about the eyelids almost pellucid; the sclerotic coat of the eye was of a stone blue colour; the lips had quite lost their pink tint; there were ascites and general anasarca. She constantly complained of cold; her appetite was fair, particularly for salt food. Her thirst was very great, and her craving for stimulants remarkable. The discharge from the bowels was of a pale yellow (straw colour) frothy, and very liquid. The urine was greatly diminished in quantity, had a healthy reaction, and contained no albumen.

We endeavoured to arrest the diarrhea with the compound powder of chalk with opium, but with only temporary effect. The child died exhausted on the 19th.

The *post mortem* examination revealed the following appearances:—The abdomen contained at least two quarts of watery serum; thready bands of lymph binding the visceral and parietal peritoneum in all directions, which was studded over with granular depositions. The mesenteric glands generally, were enlarged; and tubercular depositions were observable in the intestines generally, but along the large intestines and along the sigmoid flexure in particular.

The liver was enlarged and of a nutmeg character. The cavity of the thorax was much compressed, and the left pleura was slightly adherent, and a mere trace of tubercular deposition could be detected in the apex of the left lung; none in the right. The heart and pericardium seemed free from any scrofulous deposition; and, as there were no symptoms of the brain having been implicated, it was not examined.

In this case the abdomen was puffed up and rotund, but in other cases which I have had an opportunity of observing, the abdomen was irregular and uneven, and various projections and intumescences could be felt which might readily have been mistaken for some of the special viscera; but in many of these cases the progressive effects of this disease give rise to prominence of the liver and spleen, and to pressure of the thoracic viscera evidenced by dyspnea. Again, organs become pressed downwards. Dr. Kyburz having found the vaginal portion of the uterus crowded down to the labia; pressure of the peritoneal sheets, including the gall duct between them, has given rise to an icteroid appearance in these cases; and in the case above detailed I have reason to believe the suppressed urinary secretion was due to pressure.

Sir H. Marsh and Dr. Churchill, in two cases recorded by them, found the intestines adherent to the walls of the cavity. The connecting

medium consisting of a thick layer of adventitious membrane, in some parts softened and presenting small depots of curdy matter. The visceral and parietal layer of the peritoneum were united, and a large cavity was discovered extending from the upper part of the right lumbar region to the iliac fossa; it was lined with a soft curdy greyish white substance, and contained about half a pint of thin pus with curdy matter. On the left side a somewhat similar cavity of larger dimensions was opened, from which a jet of dark brown fluid issued, very fetid. The mucous membrane of the large intestines appeared thick, soft, and vascular; submucous glands enlarged, and many of them softened into a curdy looking substance.—*February 22, 1862.*

Inversion of the Urinary Bladder through the Urethra, with large Prolapsus of the Rectum, in a Female Child—Croup.—DR. BEATTY said, that on the 20th of January last a female child, aged a year and 11 months, was sent from the country to the City of Dublin Hospital, with a statement that there was something wrong with the genital and urinary organs. She was a fine, strong, handsome child. The appearance of the parts was most extraordinary. Just between the labia there was a scarlet tumour about the size of a chestnut; and it at once struck him that it was the inner surface of the bladder, similar to what has been seen in cases of vesico-vaginal fistula, or of malformation where the anterior wall of the abdomen is open above the pubes, and the inner coat of the bladder protrudes.

Upon touching it with his finger the child cried violently. It could be forced back, and even replaced by pressure; and the urethra was sufficiently large to admit of the easy passage of his fore finger into the replaced bladder, showing the case to be one of complete inversion of the bladder through the urethra. The mother told him that the inversion of the bladder did not take place until the child had a fit of crying when it was 12 months old. There was also a large prolapsus of the rectum, which occurred when she was nine months old, in consequence of an attack of diarrhea. The child remained in hospital up to Monday last, and continued quite well. Dr. Beatty kept her in for the purpose of devising some means to remedy the defect. On Sunday morning, however, she was attacked with severe croup, which terminated in her death on Monday evening. He was thus enabled to obtain the specimen now before the society, showing the bladder turned inside out through the urethra. It had now lost some of the scarlet colour, and something of its size. In the prolapsus of the rectum there was nothing remarkable; but, combined with the other defect, it gave the parts a very curious appearance. The uterus was *in situ*, and the ovaries were very large for a child of her age. Dr. Beatty had never seen another instance of such inversion. The child died of croup, as he before stated, and the specimen showed

a very perfect, well-formed false membrane, lining the trachea, and forming a tube within it. The gentleman who made the *post mortem* examination told him that the deposit of false membrane did not extend lower down than the bifurcation of the trachea.—*February 22, 1862.*

Narrowing of the Left Auriculo-Ventricular Opening, and of the Aortic Valves; Concentric Hypertrophy of the Heart.—DR. MACSWINEY presented the heart and a portion of the left lung of a woman, aged about 36, who died a few days ago in St. Vincent's Hospital, where she had been under the care of Dr. Mapother. As the specimen illustrated one of the modes of death not uncommon in cardiac disease; and, moreover, as it showed with what an enormous amount of disease in this organ prolongation of life was compatible, he had thought it worth while to bring the morbid parts before the Society. Dr. Mapother had been good enough to send the specimen to him, as he had had frequent opportunities of seeing the patient professionally over an extended period of years previous to her death.

Eight or 10 years ago she had an attack of pneumonia, which was complicated with some degree of acute cardiac affection. From this she with difficulty recovered; some delicacy of the chest remaining after her general convalescence. Four years ago she had a very severe attack of rheumatic fever, since which time she has, for the most part, been a chronic invalid, subject to paroxysms of urgent dyspnea, cough, and sometimes hemoptysis. She used to complain much of weakness at these times; would lose all appetite, and become depressed and feverish. Still she periodically returned to a state of comparative health. She rallied wonderfully during the last year, and was apparently quite well, save for a permanent increase in the force and frequency of the heart's action. About six weeks ago she became seriously ill again; she suffered from total loss of appetite, cough, and pain in the region of the heart, which distressed her greatly. She expectorated blood pretty freely, and had to remain in bed. Her decubitus was on the right side; she could not lie at all on the left side; and indeed generally preferred to remain in a sitting posture. When the stethoscope was placed over the cardiac region, at this time, he could detect a bruit at the apex; but so rapid was the heart's action that he could not be very sure whether it was systolic or diastolic; but it was most distinctly heard over the apex, and was, probably, systolic. Dr. Mapother had sent him a brief note of what he knew of the case, and, with the permission of the Society, he would read it:—

“Her symptoms,” he writes, “during the time I saw her, were extreme dyspnea. She could only breathe in the sitting posture; weak and irregularly intermitting pulse—stopping sometimes every fourth, sometimes every sixth beat; congested lips, nose, and ears; extreme distress about the heart; the stethoscope discovered a loud bruit towards the apex of the heart which masked altogether that which the diseased

aortic valves may have produced. There were rales in the larger bronchi. She had hemorrhagic sputa from the time I saw her. There was no dulness, on percussion, over pleural cavities 10 hours before death, so that the two pints of turbid serum in the left, and one pint and a half in the right pleural sac must have been poured out shortly before death. This effusion was the only other abnormal condition (besides those in the heart and lungs) which was present. The circumscribed blood clots were numerous in both lungs, and very similar to that I have sent you."

Dr. MacSwiney exhibited the heart, and pointed out that it was most extensively and seriously diseased. The left auriculo-ventricular opening was very narrow—a mere slit—and the valves were greatly thickened, and otherwise diseased. There were deposits of a hard and gritty structure upon the aortic valves, which latter were contracted, giving rise to the condition of permanent patency. The tricuspid valves, also, had not escaped, but were thickened, and had some vegetations upon them. The heart was rather small; its walls somewhat thickened; its cavities enlarged. Dr. Law—to whom Dr. MacSwiney had shown the organ—considered it was a good example of concentric hypertrophy, a condition which he believed was only found present when the double lesion existed.

The lungs were highly congested, and presented an admirable instance of the state known as pulmonary apoplexy, and with which they were all so familiar that it was not necessary for him to dwell on it.—*March 1, 1862.*

Angina Pectoris.—DR. JENNINGS submitted to the notice of the Society the particulars of a case lately under treatment in the South Dublin Union Hospital, which he considered to be possessed of interest, not merely as being an instance of a somewhat unusual disease, but also, and more especially, as illustrating and corroborating, in a marked degree, the connexion which has been stated by Dr. Corrigan, so far back as the year 1837, to so constantly, if not invariably, exist between inflammatory conditions of the lining membrane of the aorta, and that most distressing disease, or rather symptom of disease, angina pectoris.

James Doolan, aged 41, formerly a porter in a flour mill, who had been, to use his own expressive language, a "hard-worker and hard-liver," and whose appearance betrayed the ruin wrought by habits of excess, was admitted on the 4th January last, labouring under a complication of disorders, the most immediately urgent of which was bronchitis of an acute character, but which was soon relieved by ordinary treatment—stated, that two years since he was suddenly attacked by an intense pain in the chest, which lasted for about 24 hours; after the lapse of which time it became somewhat relieved, but never totally disappeared. "Never since then," in his own words, "had he been the same man." For a considerable period previous, however, he was sensible of a fluttering action of his heart,

which, though annoying, did not prevent him from pursuing his ordinary avocations. About one week ago he was, for the first time, attacked with great difficulty of respiration, which prevents his assuming, even for an instant, the recumbent posture. When urged to lie down, for the purpose of making a more accurate examination, he positively refused—assigning as a reason his fear of instant death if he abandoned the sitting or erect position; and the anxious and apprehensive expression of his features forcibly conveyed the truth of his words. He soon constructed a pile of boxes and other matters, against which, sitting on the side of his bed, and leaning forwards, he rested his forehead, and which was the only posture in which he found any relief.

On making an examination of his chest, the undue resonance, and absence of the ordinary vesicular murmur, induced by old standing bronchitis, was readily detected; but Dr. Jennings was in no slight degree surprised by failing to discover the heart's action in the normal situation. His first conjecture was that this organ had been displaced by some previous cause; but the most prolonged and careful examination failed to detect more than an exceedingly faint and indistinct pulsation in any part of the thoracic region.

Attention was now directed to the epigastrium; and here, slightly to the left of the mesial line, the heart's rhythm was clearly distinguished, and its pulsations plainly seen; an occasional and ill-marked bruit was also heard in the same place. Here also there was visible fulness, and great tenderness on pressure. The pulse was 84, equal in both wrists, very feeble and thready.

In this state, and only partially relieved by any means adopted, he continued till the 22nd January, suffering occasionally from severe attacks of angina, during the paroxysms of which he was said, by the attendant, "to resemble a person drowning"—when now, for the first time, his countenance began to assume a livid hue, and œdema of the eyelids and ankles made its appearance. His general suffering also became more intense, and the lividity of face and anasarca of the feet and legs rapidly increased, until at length, the integuments giving way, and serum in great quantity escaping, the ankles and neighbouring parts became covered with sloughing sores. He thus continued, gradually getting weaker, until the morning of the 23rd instant, when, falling into a state of stupor, and having, for a few hours previous, lain down for the first time since his admission, death ended his sufferings.

Autopsy, made a few hours after death, disclosed the following state of parts:—

The lungs exceedingly emphysematous, overlapping, and concealing the pericardium. A mass of diseased and softened bronchial glands occupied the bifurcation of the trachea; and which, though it surrounded the left pneumo-gastric nerve, yet did not seem in any way to have affected its

structure. On withdrawing the margins of the lungs, and opening the pericardium, the heart, in a state of great hypertrophy—greater than he had ever before seen—was disclosed to view; and a bulging and dark-coloured prominence was observed on the ascending portion of the aortic arch—in fact an incipient, true aneurism. On slitting up the aorta patches of atheromatous and calcareous deposit were seen in the vicinity of the tumour, *where the lining membrane still maintained its normal colour.* At a slight distance further on, however, this membrane was found to be in a state of the most intense vascularity, varying from a scarlet to a deep purple hue, *but completely free from deposit of any kind.*

The valves of the heart and semilunar ones of the aorta, were apparently perfectly healthy; but the ventricular walls were greatly thickened. He proceeded to say that, in his opinion, they were not at all at liberty to regard in the light of cause and effect the presence of the aneurismal tumour and the anginal symptoms, for several reasons:—Firstly, That this affection is so rarely thus accompanied, even when it has made the greatest progress. Secondly, Its trivial size in the present case. Thirdly, The absence of any active inflammatory action in the immediate vicinity of the aneurism.

The view that he was disposed to take was, that the pain first felt two years ago heralded the commencement of the aneurismal disease and atheromatous deposit, which progressed more slowly, perhaps, than usual; and that the dyspneal and anginal symptoms felt at the close of last year resulted from the establishment of the inflammatory action in the lining membrane of the aorta, and in all probability was induced by some debauch, so frequent among the lower classes at this season.

That the fact of the heart's rhythm being almost inaudible in the thoracic region was satisfactorily accounted for by the enormous degree of hypertrophy this organ had attained, occupying completely (as it did) the pericardial sac, it was thus deprived of the room requisite for its normal action; and for this reason was heard and seen only through the yielding abdominal wall, against which, and the interposed diaphragm it was projected with unusual force. The great thickness of its ventricular walls, and the emphysematous state of the lungs, no doubt aided in producing the same result.—*March 1, 1862.*

Pneumonia.—DR. MACSWINEY presented the morbid parts taken from the patient in the following case, which he detailed:—Patrick M'Keever, a labourer, was admitted into Jervis-street Hospital, on March 2nd, 1862. He gave the following history of his illness:—He has been ill, with his present attack, for the last seven days. After exposure to cold, he felt ill and feverish, on Monday, February 24th. On the 25th, he had a severe rigor, during which he shivered all over. Next day he could not get up he was so ill, being weak, feverish, and coughing. On the 26th

he, for the first time, felt a heavy, dull, severe pain in his right side, posteriorly. He was obliged to lie on that side to relieve himself. He has had scarcely any treatment administered to him, and came into Hospital on the 7th day of his attack.

March 3rd.—Present state,—decubitus on right side; countenance anxious; centre of cheeks purplish coloured; breathing very much accelerated, cough severe; expectoration small in quantity, mucous, viscid, difficult to bring up, red-coloured and frothy; pulse 110, soft and compressible. The physical signs were as follows:—Lower two-thirds of right chest, posteriorly, were absolutely dull on percussion. In the same situation, auscultation could detect total absence of the vesicular murmur, and of rales; presence of bronchial respiration in a marked degree. Bronchophony existed when the patient was caused to speak in a loud tone, whilst the listener's ear was kept applied to the chest posteriorly. Respiration on the left side was normal; vocal fremitus was heightened on right side; tongue brownish-yellow. The condition of general prostration was very well expressed by his feeble voice, slow speech, failing memory, and torpid manner.

His treatment consisted in the administration of the diffusible stimuli, wine, and beef tea. A large blister was applied to the right chest, posteriorly. On March 5th, the dulness had extended up to almost the apex of the right lung; the pulse was 120, countenance very much depressed; but little expectoration, speech slow and laboured; decubitus on right side. There is no alteration in his physical signs or symptoms, and he takes his prescribed remedies.

The urine was copious, rather high-coloured, and passed without pain. A portion of it, acidulated with nitric acid, and then treated with a solution of nitrate of silver, yielded no white, flocculent precipitate, thus clearly indicating the absence from the secretion, in this instance, of the chlorides always normally present in urine. This clinical fact (Dr. MacSwiney said), which, he believed, had been first pointed out by Redtenbacher, in Germany, and since then confirmed by many other observers, was a very interesting one, and a very important one in a practical point of view; for it has been found that the chlorides disappear from the renal secretion, in many cases of pneumonia, at a period corresponding to the complete solidification of the lung; and that they reappear in it when resolution, and the consequent process of cure, has set in. Where does the chloride of sodium go in those cases where it is absent from the urine, in inflammation of the lung? Dr. L. Beale, in the 30th volume of the *Medico-Chirurgical Transactions*, has answered this query, by showing that it may be found in the sputa and in the inflamed lung itself, where, for some at present unknown cause, it is found to accumulate. The prognosis which Dr. MacSwiney pronounced was very unfavourable, the extent of lung engaged—the entire of the right—

influencing him much in arriving at this conclusion; as, he said, the amount of lung engaged in pneumonia was the one circumstance exercising the most powerful influence on the result. The patient died on the morning of the seventh, and a *post mortem* inspection of the body was made in the course of the day. An inspection of the morbid parts presented now would show the entire of the right lung solid as liver in structure, looking and feeling like liver too, and enlarged to such an extent, that it had bulged out the thoracic parietes at that side, and was deeply indented by the ribs. The pleuræ, at the right side, were adherent all along their opposed surfaces.

The left lung at its posterior inferior part, exhibited a congested condition, which denoted commencing parenchymatous inflammation there. There was no other diseased structure. The points of interest, Dr. MacSwiney thought, in this case were: 1st, The extent of lung implicated in the disease, it being rare to meet cases where more than about one-third of the lung is engaged. 2nd, The demonstration of the important clinical fact in connexion with the disappearance of the chlorides from the urine (Dr. MacSwiney here tested some of the patient's urine, in the manner above described, and contrasted the result with that obtained by acting upon some healthy urine, which he also exhibited). 3rd, The presence of pleural inflammation, which could not be detected during life by any other symptom except the pain; thus confirming, so far, the opinion of those who consider that the stitch, when present in pneumonia, always denotes pleuritis. And 4th, the difficulty of diagnosis, in a case such as this, where the entire lung was solidified, from a case of universal dulness at one side of the chest, due to pleuritic effusion.—*March 8, 1862.*

Fibrous Polypus of the Uterus.—Dr. CHURCHILL presented a polypus uteri which he had removed, two or three days previously, from a maiden lady. He stated, that about a year and a half ago she came to him in consequence of excessive monthly discharge, and that he could not detect the presence of a polypus. When she last called on him, a week ago, she was labouring under the same symptoms, with the addition of a watery discharge. On making an examination, he found a polypus growing from within the cervix. It presented nothing peculiar, being an ordinary fibroid tumour, which was easily removed. His chief object in bringing the case under the notice of the society was to exhibit an *écraseur* adopted by M. Maisonneuve, of Paris. It possessed the great advantage of being easily applied, and equally effectual. It was, besides, much cheaper than the *écraseur* in general use—its cost being only 10 francs.—*March 15, 1862.*

Diseased Placenta.—Dr. M'CLINTOCK said, that diseases of the after-birth were so rare, and their pathology was so much involved in obscurity,

that any new fact, however small, was worth being brought forward, and put on record. Before he showed the coloured drawing he intended exhibiting to the Society, he would advert to the pathology of the disease, which had been very unhappily termed "hydatids of the uterus," which was a great misnomer—for the disease in question was not hydatids, neither was the uterus the part affected. The disease was seated in the chorion, and consisted in a development of cysts on its outer surface. It was correctly called, by Mr. Paget, "cystic disease of the ovum."

There was no recorded instance of a living embryo being born of a mother who had this cystic disease. The opinion entertained in the present day was that the cystic disease in the chorion was a consequence, a result of the death of the embryo, and not the cause. There were just, then, two points which he wanted to dwell upon with reference to hydatids of the uterus:—First, That the disease occurred in the villi of the chorion. Secondly, That it was extremely rare to see an embryo expelled when the disease existed; and that there was no recorded example of a living embryo being so expelled. Nine cases came under his own care of the disease, and in one only was there any vestige of an embryo. These cysts very rarely became developed after three or four months; but when they originated after that period they were necessarily confined to the placenta.

Now these remarks were merely prefatory to the exhibition of this very beautifully executed and faithful representation of a placenta. The history of the case was as follows:—The patient from whom this placenta was expelled was confined in the Lying-in Hospital, at the end of eight months, of twins. There were two placentaë, of about the usual size, one of which was represented in the drawing. Both children were alive; and, on an examination of the surface of the after-birth, there were discovered four or five well marked cysts, the largest the size of a full grown grape. Now what was the nature of these cysts? He was not aware of any recorded instance where such a morbid appearance was found in the placenta. He had examined many diseased placentaë himself, and, except in that solitary instance, he never saw anything similar to this. They were true cysts, and contained a limpid yellowish-coloured fluid, of a somewhat syrupy consistence. On close examination these cysts—five in number—were found lying on the external surface of the chorion, and closely connected with it. Now, what was the nature of these cysts? In what light are they to be regarded? He was of opinion that their pathogenesis was the same as that of the cystic disease or vesicular hydatid of the ovum. They were certainly a cyst formation, attached to the outer surface of the chorion. If this opinion were correct, the case was a very singular one, as furnishing an example of the vesicular hydatids at so late a period of gestation as the eighth month, and also as being in connexion with a living fetus.—*March 29, 1862.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.^a

TWENTY-FOURTH ANNUAL SESSION, 1861-62.

THIRD MEETING, 1ST FEBRUARY, 1862.

DR. DENHAM in the Chair.

DR. THOS. EDWD. BEATTY read the following paper on *Retroflexion of the Uterus*.

During the session of this society held in the year 1847, I had the honour of reading a paper on retroflexion of the uterus, which paper was afterwards published in the August number of the *Dublin Quarterly Journal* for that year. In that communication I spoke of retroflexion as an accident of "rare occurrence," and one that had been characterized by Dr. Ashwell (whose treatise had been published the year before) as "exceedingly uncommon;" and after giving the details of some cases that had come under my observation, I concluded in the following words:—"In conclusion I would observe, that it is not unlikely these cases are more common than is imagined; and that the diagnosis from the symptoms, and from an examination by the vagina and rectum, is not difficult." Subsequent experience has shown that this opinion was correct; and retroflexion, or retroversion, of the uterus is now known to be very far from uncommon. In the paper alluded to I drew a distinction between retroversion and retroflexion; and I am still disposed to consider the distinction as important, more particularly in reference to treatment.

Dr. Simpson discards the distinction; and while he admits the two forms of displacement, he includes both under the term retroversion.

That the uterus is capable of being retroflexed, that is, of being bent back upon itself, the fundus doubling down into the *cul de sac* of the peritoneum, while the cervix maintains its natural position, is a fact now well known to all investigators of uterine disease; and that the uterus is capable of being retroverted, that is, the whole organ being upset, the fundus falling down behind, while the cervix is turned up before, without any flexion taking place in the organ itself, must be equally admitted.

Now, it appears to me that the difference between these two conditions is so well marked as to warrant us in treating of two distinct affections; and, accordingly, the observations I am now about to make shall be confined to the true retroflexion. This condition is often met in conjunction with chronic inflammation and enlargement of the uterus; and sometimes it is accompanied by ulceration of the os and cervix uteri. It

^a These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

is sometimes, however, discovered unconnected with any organic disease, and appearing to be a simple alteration in the form of the organ. Examples of the latter are more rare than those of the former; and when they do occur, are productive of much less suffering to the patient, and are more easily remedied. Most commonly, there is a certain amount of enlargement, the result of inflammation, which keeps the organ in a state of painful sensibility; and when this is accompanied by ulceration of the cervix, it gives rise to the distressing sensations complained of when the patient stands or walks; and more particularly during the act of defecation, when the contents of the bowels are forced past the tender fundus displaced and bulging into the canal of the rectum. Whether this inflammation of the uterus be the cause of the displacement, by enlarging the fundus, and thus giving it additional weight and tendency to topple over, or whether it is the result of the unnatural and strained position in which the organ is placed by the retroflexion, I will not now stop to discuss. It is enough for my present purpose to state, that the inflammation is at times, and not rarely, found to exist; and that when it is, it should have much influence in modifying the treatment. We are indebted to Dr. Simpson for the invention of several ingenious mechanical contrivances for rectifying these various displacements of the womb; and when a case is in a state fitting for their use, some of them, as I will show, are of very great value. But all cases are not so when first presented to us; and I conceive it is a want of discrimination between suitable and unsuitable cases that has led to unpleasant results, and condemnation of the instruments, from time to time. The treatment that will produce very satisfactory effects in one state of the organ will be very injurious in another. To attempt to force an inflamed uterus into its natural shape and position, and to keep it in that restored condition by artificial support, must only increase the existing inflammation, and if persevered in, will surely place the life of the patient in great danger. On the other hand, where there is no inflammation of the uterus, or if, when there is, proper means have been adopted to remove it, then there is no doubt the use of mechanical support may be had recourse to with great advantage.

In those cases of retroflexion in which the distortion has existed for a long time, when the fundus is enlarged, and painful when pressed with the finger either in the vagina or the rectum, and still more, when this condition is accompanied, as it often is, with ulceration of the os and cervix, our exertions must be directed, in the first instance, to remove these morbid conditions by rest, leeches, warm hip baths, light diet, vaginal injections, direct applications to the ulcers, and all the usual means known to be of service in such cases. When by such means the bulk and tenderness of the uterus are diminished, then the case will be benefited by having recourse to mechanical aid. The uterine sound

will enable us to replace the uterus in its natural position; but, as is well known, when it is withdrawn, the organ quickly resumes its abnormal displacement. The contrivances proposed by Dr. Simpson for the purpose of keeping the uterus in its proper position may be divided into movable and immovable. His first suggestion was of the first kind, the oval ball with the stem attached to it. The stem being passed into the cavity of the uterus, kept it straight as long as it remained; but it was found that the instruments lipped out of the canal, and became of no use in a short time. To remedy this, Dr. Simpson made use of a more fixed or immovable form of instrument, whereby the uterus is kept firmly fixed in one position by means of a framework of wire turning up over, and grasping the anterior portion of the pelvis. In Dr. Simpson's hands this instrument has answered its purpose, but in those of others its use has sometimes produced very great suffering, obliging the attendant to remove it from the patient. It appears to me that these failures have arisen from the too great and unnatural fixity given to the uterus by the instrument. I say unnatural, because in the healthy state the uterus is by no means fixed in its position, but moves about according as the bladder and rectum are filled and emptied, and also according as the position of the woman is horizontal or perpendicular. A rigidly fixed position is, therefore, not what the uterus is accustomed to or demands, and is not, in my mind, either necessary for, or conducive to, the rectifying of retroflexion of that organ.

The bent condition in which we find the womb in retroflexion is what we want to remedy; and this, I have found, can be accomplished without the complicated and formidable looking apparatus just alluded to, and in a way much less likely to produce inflammation. As I have said in the commencement of this paper, I confine my observations to the true retroflexion of the uterus. Now, the method I have found successful is the following:—If inflammation or ulceration is discovered, no mechanical appliance is used until they are removed; and when the uterus is brought into a condition to bear interference, it is then restored to its proper position by the uterine sound, if it has not become rectified by the treatment used for the reduction of the inflammation, a happy termination which is sometimes obtained. When replacement by the sound has been effected, the uterus must be kept in its proper shape, for four or six weeks, by Dr. Simpson's first described stem pessary with the oval ball at its bottom; but as that will not keep its place without an additional support, a flat box-wood pessary of the ordinary kind is introduced. This prevents the falling out of the uterine stem, and at the same time permits the metallic ball to move about over its smooth surface, thus obviating the danger of keeping the uterus permanently fixed. A stem introduced into the uterus, and kept in it in this way, produces no irritation. After a few weeks the vicious bend in the tissues

of the organ will be overcome, and the retroflexion is found rectified. But something more remains to be done. It is necessary, for some time, to prevent any relapse; and for this purpose, after the stem and box-wood pessary are removed, a simple ring of gutta percha is introduced into the vagina. This ring is made by bending a rod of gutta percha, a quarter of an inch in diameter, into a circle of the same diameter as that of the flat box-wood pessary just removed. When this ring is introduced into the vagina, and the woman stands up, it assumes the same position that a flat pessary does under the same circumstances, namely, a very oblique one. If the finger is passed into the vagina of a woman in the erect position whilst she is wearing a flat pessary, the instrument will be found lying, not horizontally, but very much sloped, its anterior margin being felt down near the orifice, while the posterior rises high up in the vagina, behind the cervix uteri. The ring, when introduced, assumes the same position; and the great advantage it has over the flat pessary is, that while the posterior part of its periphery rises up behind the cervix uteri, and offers resistance to the fundus if disposed to fall back, the cervix is permitted to pass through the wide ring and descend to its proper position in the vagina. The uterus, previously straightened by the uterine stem, is thus kept in its natural form by this very simple means. Six or eight weeks will be sufficiently long to wear this ring, at the end of which time it may be removed.

I have treated many cases of retroflexion in this manner, and with very great success. I have never found the uterine stem to produce pain, or require removal, when used as I have mentioned, although the patients have walked and moved about freely; and the ring gives so little annoyance, that those wearing them are not conscious of their presence.

DR. CHURCHILL exhibited specimens of a pessary, for retroversion, invented by Dr. Hodge, of Philadelphia. Each pessary consisted of an upright and a horizontal portion; the former to occupy the vaginal *cul de sac* behind the cervix uteri, whilst the latter portion lies along the vagina to the arch of the pubis. Dr. Churchill reminded the society that some years ago he exhibited a pessary constructed for the purpose of distending upwards the posterior *cul de sac*, but differing in form from Dr. Hodges. After trying both, Dr. Churchill pronounced his experience to be entirely in favour of Dr. Hodge's instrument, and he begged to recommend it to the society. He had tried it in ordinary cases of retroversion; and in one extremely difficult case, and with remarkable benefit. It occasions no irritation, absolutely precludes the retroversion when properly fitted, and will materially aid in raising the fallen womb when it cannot be at once reduced.

DR. SINCLAIR, after making some preliminary observations upon the

difficulty of preserving vaccine lymph in an active condition for any lengthened period, and having alluded to the various methods adopted for that purpose, brought under the consideration of the society the recent plan invented by Dr. Husband, of Edinburgh. Dr. Sinclair explained the various sources of difficulty and failure in the preservation and transmission of active vaccine, and proceeded as follows:—

“These difficulties have now been overcome by Dr. Husband’s simple and convenient invention.”

The following is his description of it:—

“A simple, straight, cylindrical tube, open at both ends, and of such dimensions as to fulfil the following conditions, upon which its peculiar value as means of preserving lymph for future *everyday* use, essentially depends.

“It must be, in the first place, of such tenuity that it can be sealed *instantaneously* at the flame of a candle.

“In the second place, it must be large enough to contain as much lymph as is sufficient for one vaccination.

“In the third place, long enough to admit of both ends being sealed hermetically without subjecting the charge to the heat of the flame.

“And in the fourth place, strong enough not to break easily in the mere handling.”

Dr. Husband also asserts that a certain standard must be adhered to, and care taken that they are not made too long to be manageable.

The following are the measurements he lays down:—

“Average length, $2\frac{3}{4}$ to 3 inches.

Diameter, 1-28th of an inch.

Thickness of wall, 1-200th of an inch.”

“The tubes need not,” he continues, “strictly and rigidly conform to the standard laid down, but they must not vary from it, except within certain limits, otherwise they become unfit for the purpose. Although their normal shape is cylindrical, some of them are more or less fusiform towards one extremity, and terminate there in a fine point; or one of the extremities may taper to a point without becoming fusiform. In either case this irregularity of shape is accidental, and is no disadvantage, but rather the contrary.”

Dr. Sinclair then exhibited some specimens of Dr. Husband’s tubes; and explained, by means of some coloured fluid, the method of filling them. He likewise showed how readily they could be sealed, and transmitted through post, or stored for stock; and also demonstrated the mode of removing from them the vaccine for the purpose of vaccination.

Having then largely quoted from Dr. Husband’s pamphlet, in order to acquaint the society with the inventor’s experience of vaccination from lymph thus preserved, Dr. Sinclair continued:—“It is needless to mention

the advantages of this method of preserving lymph, if Dr. Husband's statements are correct. In order to satisfy myself on the subject I procured a set of tubes, about the summer of 1860, and am now prepared to give the results of my experiments to the society:—

1861, Jan. 11,	Vac. 1,	Lymph 3 mos. sealed,	8th day,	natural.
„ „ 15	„ „	1 mo. 3 wks.	„	natural.
„ Feb, 1	„ „	1 yr. 24 days	„	absent.
„ Dec. 17	„ „	1 yr. 4 mos.	„	natural.
From same supply. { „ 20	„ „	1 yr. 4 mos.	„	slow; 12th, nat.
„ { „ 20	„ „	1 yr. 4 mos.	„	slow; 12th, nat.
1862, Jan. 21	„ „	1 yr. 4 mos.	8th day,	very slow; 12th day, as if on the 8th.
„ „ 21	„ „	1 yr. 4 mos.	8th day,	natural.
„ „ 21	„ „	1 yr. 4 mos.	„	s; 12th as on 8th.
„ „ 21	„ „	1 yr. 4 mos.	„	natural.
„ „ 24	„ „	6 months old	„	doubtful crusts.
„ „ 24	„ „	„	„	failed.

These 12 cases were operated on at the Dublin Cowpock Institution. I can present three more from private practice.

On January 27, 1861, Dr. Geo. Johnston vaccinated, from a tube I had given him, in which the lymph had been sealed six months. On the eighth day the vesicles were natural.

In the same month I vaccinated a child in my study, from lymph which had been sealed nearly seven months. On the eighth day the vesicles were natural.

During December last I vaccinated a young lady, aged 10 years, said to have been vaccinated in India when an infant, but who presented no trace of such vaccination. The lymph used in this case, was fully one year and a half old. On the eighth day one vesicle natural, other slow and rubbed.

Thus, then, I have 15 cases of vaccinations from lymph which had been sealed in Husband's tubes for periods varying from three to 18 months. Of these 12 were successful. Of the remaining three, one case did not present itself again at the institution; and on looking at the infant's address in the registry, it was found to be in a respectable locality. It is, therefore, fair to conclude that this was also a successful case, and that the child was shown to its mother's medical attendant. Were it unsuccessful the infant would most certainly have been brought back to us. She, therefore, was an unfit person to profit by a charitable institution, and doubtless remained away lest the lymph should be taken from the vesicles. The other two are decidedly unsuccessful; but on looking over the register it is found—1st, That they were brother and sister. 2nd, That the attempt had been made to vaccinate, from infection preserved on ivory

points, eight days prior to the attempt with the tube. With the first, there was subsequently a slight trace; the other, no trace whatever. 3rd, That, after having vaccinated them from the tube virus, the one that presented a slight trace on the eighth day (after the first attempt with the points), exhibited four doubtful crusts on the eighth day after the attempt with the contents of the tube. The other child exhibited no trace whatever. Thus there is sufficient evidence here to show, that, in all probability, it was some constitutional trait in these children which caused the virus to be resisted. The latter has been revaccinated from the vesicle, and the former is at present under observation.

On the whole, then, my experiments have been most satisfactory. I can, so far, endorse all that Dr. Husband has said in favour of his beautiful invention; and I am happy to have this opportunity of publicly expressing the obligation I am under to him for this great boon—an obligation I am sure every one will be ready to acknowledge who makes use of his capillary tubes.

SIXTH MEETING, 26TH APRIL, 1862.^a

DR. HARDY in the Chair.

DR. JOHN A. BYRNE read the two following cases of *Congenital Malformation of the Rectum*, which had come under his observation lately, in one of which the canal existed in its entirety, but was intercepted, at a short distance from the anus, by a membranous septum; and in the second case there was a complete absence of the lower or anal portion of the intestine.

The first case occurred in the Rotundo Lying-in Hospital, in May, 1860, during the period of his assistantship.

A woman, named Maher, was confined of her second child, a *male*, after a labour not attended by any unusual circumstances. The nurse of the ward, observing that the child did not pass anything from the bowels 24 hours after birth, although she had given some castor oil, brought the case under our notice. On our making an examination, we found the anus perfect; but, on passing a probe into the rectum, it was arrested at about three-quarters of an inch from the anus, by a membranous septum extending across, which could be plainly seen on examination by an ordinary aural speculum. The partition appeared to be composed of the rectal mucus membrane, and, except in point of colour, resembled the *membrana tympani*, extending across the *meatus auditorius externus*. On introducing the point of the little finger it was felt extending the entire way across, and it gave to the finger the sensation of being very dense and unyielding.

^a Fourth Meeting, special business. Fifth, papers by Drs. Denham, Sawyer, and MacSwiney; discussion adjourned.

It being quite manifest that the canal was obstructed, and that no feces could pass on account of it, and that the child would perish unless this could be perforated, and the channel made perfect, we immediately proceeded to do so. Accordingly, assisted by Dr. MacClintock and Dr. Halahan, I introduced the aural dilatory speculum within the anus; and having dilated the lower part, I passed a sharp-pointed bistoury through the septum for a short distance; but it appeared, from no meconium coming away, that so far we had not got through it. I then endeavoured to enlarge the opening by passing a probe and director through it; but they were arrested, and no good result followed; in fact, it was now quite apparent that the partition was of great density, and almost ligamentous in structure. I then passed a sharp exploring needle, which went in for a considerable way—and in its track a dilator, but with the same unsatisfactory result. It appeared to us all present that we had a difficult affair to contend with. But I will not detain the members of the Society by dwelling on those difficulties; I will only say, that by a succession of incisions, explorations, &c., we finally succeeded in passing a small probe, and afterwards a director, through it; and we all felt a delicious sensation of relief when we observed the groove of the director blackened by meconium, which now began to come away in considerable quantities; and, by dilating the opening with the little finger and larger bougies, we secured a tolerably free passage. During the operation there was some hemorrhage—but none afterwards. A gum-elastic bougie was left in for some time; and the little patient slept well, and appeared to find considerable relief; and the evacuations soon became natural. I need scarcely say that we took the precaution of preventing the closure of the orifice by the repeated and continued use of bougies, increased gradually in size, until the mother and child left the hospital.

I may mention to the members of the Society that since that time I have had constantly under my observation and treatment the infant, and have taken care to pass the instrument occasionally. The child, although delicate, has always had the channel free since; but, nevertheless, it has had that tendency to close which has always been observed in these kind of cases, and it has constantly required the use of instruments to defeat this tendency.

The second case which fell under my notice was that of a child brought, a few months since, to my house, by a nursetender who had attended the mother of the infant. This child was also a male. It was the woman's sixth child; all the others had been perfectly well formed. The attention of the nursetender was directed, on dressing the infant, to the remarkable fact that no opening existed in the usual situation of the anus, and, without much delay, she brought it to my house. On looking at the infant it appeared, in every respect but one, healthy and well formed. The penis and scrotum were perfect; but on turning forwards

the scrotum there was not the most remote trace of an anus ; but the skin in the space between the root of the scrotum and coccyx was very livid in colour, and it gave to the finger the sensation of being extremely thin ; and it appeared as if the intestine was immediately under the skin. So deceptive was this appearance that I imagined that a slight incision through the transparent skin would be quite sufficient to obtain access to the rectum. Accordingly, I made an incision with an ordinary scalpel, through the skin, from the scrotum back to nearly the os coccygis, and one in the centre of this, and at right angles, but no meconium came. I then passed in my finger and a director, and endeavoured to feel the rectal pouch, but failed. I afterwards enlarged the opening, and increased the depth of the incisions, but the same want of success attended.

Under these circumstances I thought it better to have additional advice, and Dr. Hutton kindly assisted me. We passed a bistoury, carefully guarded, into the first incision, and cut through the cellular tissue lying in the pelvic cavity, and endeavoured to find out, by examining with the extremity of the finger, whether the rectum terminated in a pouch near the sacrum, as it sometimes does in those cases, but we could not feel anything resembling it, although the finger readily reached the promontory of the sacrum ; and if it had been in this direction it should certainly have been felt. We, therefore, deemed it advisable not to interfere further upon that day, and accordingly plugged the incision with some lint, and left it so until the following day, hoping that the rectum, being more distended, would be more easily felt ; but on renewing our attempts we were again disappointed, and could not feel anything. Now, the question was, what was to be done ? The effects of the intestinal obstruction began to manifest themselves upon the infant ; the belly had become swollen and very tympanitic ; the skin had become very deep in colour, and extremely hard, like brawn ; the poor infant whined feebly, and evidently was dying. It had not vomited at all, however, from the commencement, and it passed very little urine.

Dr. Hutton was of opinion that it would be useless to make any artificial opening, as he had not seen any case where the operation had been successful ; and I was guided by his opinion and his experience. The infant died on the next day—having lived more than 60 hours. The body presented, in a still more marked manner after death, the appearances which I have described. I was not permitted to make a *post mortem* examination, and consequently am unable to inform the members of the Society in what manner or where the lower extremity of the rectum terminated.

On comparing those two case we perceive that there is a great difference. In the first, the rectum was continuous all the way down to, but obstructed by a septum near the anus ; and the septum being removed, the continuity was perfected ; whereas, in the second, it would be impos-

sible to say where it terminated. In cases similar to the latter we are recommended by some surgeons, after failure to reach the rectum and open its cecal extremity, to make an artificial anus, as otherwise the infant must of necessity perish, on account of there being no fecal outlet. And the operations proposed have been many. Thus Littre, in 1720, proposed to make an opening in the sigmoid flexure of the colon, above the left groin. In some of the cases operated on recovery took place, and in others the operation was useless. The cases of recovery were very few, however.

The next operation is that of Callisen, who, to avoid injuring the peritoneum, operated from behind, by cutting through the lumbar muscles, and so got at the posterior surface of the colon where it is devoid of peritoneum. Roux tried this plan, but the infant died in a few hours.

Amussat's operation, nearly similar, has succeeded, but it was performed upon old people, and for obstructions from other causes, so that it is not fair to judge from the result in those cases what the result would be in infants.

Should a similar case occur to me again I think that I would not hesitate to give the infant the benefit of the chance of recovery by Littre's operation, and for this reason—that it affords at least the chance of life; whereas, by not interfering we remove all chance, and see the infant perish miserably before our eyes; and I think that, as far as I can collect from the statistics of eight cases in which the operation has been performed on infants, we have some chance of success, as three recoveries are recorded.

DR. HALAHAN *on the treatment of Prolapsed Funis.*—The complication of a prolapsed-pulsating-funis, with a head presentation, is a very untoward circumstance, and one that requires skill and the clear and decisive judgment of the medical man; he having to act with the greatest promptitude, as the time this accident occurs most frequently is at the rupture of the membranes; and as any delay, generally speaking, is death to the fetus, an event which will bring more or less blame with it. That we all may expect to meet such cases, is certain, if we have any practice at all. In illustration of which I may mention, that the funis prolapsed 304 times out of 51,061 patients in the practice of the several masters of the Dublin Lying-in Hospital, who have favoured us with a published report, which is nearly once in every 168 labours, so that it behoves us to be ready for the emergency. The mortality among the children is of course very great; according to the reports before referred to, a little more than two-thirds. This, however, includes all cases in which the funis prolapses, no matter what the presentation along with it, or what the state of the cord, whether pulsating or not, at the time that the accident was discovered; but I think it is very nearly the

average mortality in cases where it occurs at the rupture of the membranes in head presentations, and I believe that this mortality is increased if the membranes rupture early in the labour. It is not my intention to offer any observations upon the different modes of treating this accident; I wish merely to bring under notice the particulars of 10 cases in which this complication occurred during the time that I was assistant-physician to the Dublin Lying-in Hospital, and in which reposition was attempted, to briefly explain the manner in which I performed this operation, and then to read the cases and show the results.

There are many positions recommended in which you may place the woman so that you may with greater certainty or chance of success make this attempt. I do not for one moment wish that anything I may say would give the idea that I consider these positions useless, for in some cases they ought to be had recourse to, and no doubt with good cause of hope. The woman lying on her left side answered all my purposes, and I never consequently tried any other, and I have replaced the funis in the first and second stages of labour, in first and after pregnancies, and in mature and premature labours, by the following method. Having first discovered which side of the pelvic cavity the prolapse came from, I introduced the two fore fingers of my right hand into the vagina, when the funis came down between the head and the right side of the pelvis, of my left when it was to the left side of the pelvis. I do not mean, however, to say that this mode of procedure will answer each operator, although I found it to do so; and when I could not succeed with one hand, I always tried the other, and have, so far, never failed. As soon, then, as I introduced my fingers, I brought the two ends into close contact, pushing up the funis at the same time; when I got them in apposition, I worked my fingers up and down, having the funis caught very loosely between them, and when the loop became very small, I placed it on the tip of my fingers and pushed it well up above the brim of the pelvis, (and in but two cases has it prolapsed again,) and then I desired the woman to bear down. If, in the first stage, I only allowed her to do so for about five minutes, and then let nature run her course; but if in the second stage, or nearly so, she might continue bearing down. In one of the two cases where the funis prolapsed after reposition had been effected, I regret we did not continue our exertions, even if the circulation would not have been re-established, and I believe that it would have been a successful case if we had replaced it again, but at the time we thought it useless to persevere.

There have been many contrivances proposed and adopted for the purpose of keeping up the funis when replaced, but I do not think any such are at all necessary; in proof of which I may remind you that it only prolapsed again twice in these 10 cases. In the case in which

the fetal heart was beating at birth, we did all we could to resuscitate it, and did not give up our exertions for about half an hour; so this case, although numbered with the dead, ought not to be considered a failure, inasmuch as the fetal heart was beating at birth, the interval being 35 minutes.

TABLE of Ten Cases of *Funis Presentation*, in which *Reposition* was attempted.

No.	Hours III	Length of Second Stage		Children, Sex, &c.				No. of Preg- nancy	Stage in which Funis was discovered		Membranes Entire or Ruptured at time		Position of Head	Interval between Reposition and Birth		Mode of Delivery	Result to Mother	
				Born Alive	Dead Born	M.	F.											
		H.	M.						M.	F.	1st	2nd		Entire	Ruptured		H.	M.
1	56	2	30	1	-	-	-	2nd	1	-	1	-	3rd	18	-	Forceps	-	1
2	13	-	10	-	1	-	-	4th	1	-	-	1	-	-	15	Natural	1	-
3	12½	2	40	1	-	-	-	3rd	-	1	-	1	4th	1	-	"	1	-
4	9½	1	-	-	-	-	1	3rd	1	-	-	1	-	1	10	"	1	-
5	14	-	30	1	-	-	-	2nd	1	-	-	1	3rd	-	40	"	1	-
6	6¾	-	30	-	-	-	1	2nd	1	-	-	1	4th	-	35	"	1	-
7	35¾	2	30	-	-	1	-	1st	1	-	-	1	-	12	-	Craniotomy	1	-
8	20	-	15	-	1	-	-	4th	1	-	-	1	1st	2	-	Natural	1	-
9	8	-	45	-	1	-	-	2nd	-	1	-	1	3rd	-	30	"	1	-
10	2¼	-	30	1	-	-	-	1st	1	-	1	-	1st	-	25	Forceps	1	-
				4	3	1	2		8	2	2	8					9	1

I have placed in a tabular form these cases, showing the length of labour in each case, as well as the length of the second stage, the sex

and state of the child born, the number of the pregnancy, the stage in which the funis was discovered, whether the membranes were entire or ruptured at the time, the position of the head in those cases in which it has been noted, the interval between the birth of the child and the time reposition was accomplished, the mode of delivery, and the result to the mother. It will be seen there were seven children born alive, and three dead born; that the prolapse occurred eight times in the first stage, twice in the second; that the membranes were entire in two of the cases, and ruptured in eight at the time the funis was discovered; that the forceps were used twice, the perforator once, and that seven were left to nature; that nine of the mothers recovered, and that one died from other causes entirely; and that the prolapsed funis in no way contributed to that end. I shall now read the brief notes of the cases.

I.—Mrs. N. sent for me, on the morning of the 14th November, 1860, to attend her in her second confinement. Upon examining immediately after my arrival in the house, I found the os uteri dilated to about the circumference of a shilling, the membranes entire, and the presenting parts a head and a pulsating funis. The vagina much contracted, and the os very unyielding, on account of old cicatrices, no doubt formed since her former labour. I called upon Dr. Denham, to whom I was indebted for having been in attendance at all, and he very kindly came with me to see her, and advised me to place her on the eighth of a grain of tartar emetic, in combination with five drops of laudanum, in a mixture, every hour; and, when the os became a little more than half dilated, to perform the operation of version. Unfortunately for the child, as I then considered it, the membranes broke, at seven o'clock in the evening. I saw her one hour after; the os was still only the size of a shilling, but yielding and dilatable, so much so that I considered I could with perfect safety turn, if she were fully under the influence of chloroform; but, when I proposed such a thing to her husband, he peremptorily refused to allow her to be placed under it: and no persuasion that I could use had the effect of causing him to change his mind, although I fully explained to him the great danger the child was in, that its life would be sacrificed, as I could not undertake the operation without putting her under the influence of chloroform, for two reasons: one, the os not being half dilated; the other, the great irritability of the woman, which put it beyond the possibility of even a hope of being able to turn. I must say, that at the moment, I did not know what to do. I could not apply the forceps or hasten delivery in any other way—and I thought it was a forlorn hope to attempt to replace it—but I considered it much better to make the attempt than to allow the child's life to be sacrificed without making some effort to save it; so the first thing I did was to find out from which side of the pelvis the coil came down, and then to bring one side (the anterior one) over towards the sacrum, which I easily did, pushing

it slightly up above the head at the same time, using the two forefingers of my right hand—the funis being prolapsed from the right side—when I got the two ends in apposition (as we may say), I commenced to return the coil with the ends of my two fingers, and in about five minutes had the satisfaction of getting the loop, now barely half an inch long, on the tip of my fingers, and pushing it up well above the brim. This being accomplished, I desired the woman to bear down, which she did, I at the same time withdrawing my fingers. In about fifteen minutes I examined her again, and was delighted to find no cord in the vagina, or within reach. I then asked Dr. Paine (who kindly accompanied me to assist in the operation of turning), to examine and feel if he could now detect the funis. He was surprised to find it gone; not being satisfied, as to the success of the attempt, we examined with the stethoscope and heard, with no small degree of pleasure, the beating of the fetal heart. Labour went on slowly; the pains making little effect upon the os for some hours; however, in 15 hours after reposition had been accomplished the os became fully dilated; or rather, I think, torn or ruptured sufficiently to allow the escape of the head. Symptoms became urgent, the pulse rapid, countenance pale and anxious, together with very great prostration. I consequently, under the advice of superior skill, delivered her with the forceps, exactly 18 hours after replacing the cord. The child, a boy, was alive, and I believe is so at present. The woman gradually sank and died on the third day. I do not consider that the prolapsed funis in any way contributed towards this unfortunate circumstance: but rather that it was occasioned by the giving way or tearing of the old cicatrices, which were situated around and about the os uteri; but this is foreign to the point.

CASE II.—B. H., admitted into the Dublin Lying-in Hospital, on the morning of the 15th November, 1860, in labour of her fourth child. I saw and examined her about eight o'clock, and found the os nearly fully dilated, membranes ruptured, the head presenting, with a large coil of the funis in vagina, pulsating. I immediately acquainted the then master of the hospital (Dr. McClintock), of the circumstance, and he came to the ward at once. She had been lying on a bed, but I desired that she should be moved to the couch—a small bed on which the women are, if possible, delivered. The moving about brought on some pains, and when Dr. McClintock examined, he found the head low down, and the os all but dilated. I mentioned to him the circumstance of having had a similar case the evening before, and of having replaced it with very good effect, as then 12 hours had elapsed and it had not prolapsed again. He said he would rather give a dose of ergot and apply the forceps. He at the same time leaving the ward, and saying he would be back in 15 or 20 minutes, and that I might attempt to replace it. In the meantime she got ergot, and I went down for my forceps; and, on my return, made the attempt.

At first I thought I had no chance of success, as I could not return it with my right hand; but as the coil was prolapsed from the left side of the pelvis, I then introduced the two forefingers of my left hand, and with them replaced the funis above the head. The moment I did so I desired the woman to bear down well, which she did; the cord never prolapsed again, and the child (a girl) was born alive and strong in 15 minutes after reposition had been effected. Dr. M'Clintock not considering it necessary to hasten delivery, it going on so very favourably, she was delivered naturally. On the eighth day the mother and child left the hospital alive and well.

CASE III.—A. B., admitted into the Dublin Lying-in Hospital, on the 30th of November, 1860, in labour of her third pregnancy. At about one o'clock in the afternoon she gave birth to a son, when it was discovered that there was another fetus in utero. Dr. M'Clintock saw her very shortly afterwards, and found a pulsating funis presenting before the head, and the membranes ruptured. He then replaced the coil above the head, and gave her a dose of ergot to hasten delivery, which took place one hour after reposition had been effected, she giving birth to another son, alive and strong. She and her children left the hospital on the ninth day alive and well.

CASE IV.—M. M., admitted into the Dublin Lying-in Hospital, on the 19th day of January, 1861, in labour of her third child. Upon examination it was found that the funis, pulsating, was prolapsed before the head of the child; the membranes being ruptured at the time, and the os uteri being very nearly fully dilated. I replaced the cord above the head, and desired her to bear down, which she did at first, but afterwards would not continue, as she said she was not in labour. It prolapsed again, and, in the attempt at reposition, we considered the pulsation had ceased, and, consequently desisted any further interference, and in about seventy minutes she gave birth to a girl, dead. She left the hospital on the seventh day, against our consent.

CASE V.—A. G., admitted into the Dublin Lying-in Hospital, on the 1st of February, 1861, in her second labour. Upon examination I found the funis very much prolapsed, just at the vulva, but pulsating, and the head presenting above it, the membranes ruptured, and the os uteri about half dilated. As soon as I found this complication, I commenced to replace it, which I was able to accomplish with perfect satisfaction in about five minutes, and in forty minutes after reposition was effected she gave birth to a boy, alive and strong. She and her child left the hospital alive and well, on the eighth day.

CASE VI.—C. B., admitted into the Dublin Lying-in Hospital, on the 3rd of February, 1861, in her second labour. Upon examination (which was accomplished with very great difficulty) I discovered a pulsating funis prolapsed before the head of the fetus, the membranes ruptured,

and os uteri half dilated. I at once attempted to replace the prolapsed cord, but could do nothing towards that end, on account of the very great irritability of the woman, she placing herself on her back, each time that I attempted any manipulation. But not wishing to allow this opportunity to pass, I placed her under the influence of chloroform, having first gained the advice and sanction of the master (Dr. M^cClintock), and then with difficulty, as she never became fully under its influence, I replaced the coil that was prolapsed. In thirty-five minutes after reposition was accomplished, her child, a girl, was born, and although the fetal heart was beating, it could not be resuscitated. It was a premature child, and her former one was also still born. I have placed this child among those that were born dead, and, consequently, in which reposition failed, in consequence of respiration not having been fully established. The mother left the hospital quite well, on the eighth day.

CASE VII.—M. S., admitted into the Dublin Lying-in Hospital, on March the 19th, 1861, in her first labour. Upon examination, the late Dr. Wm. Kennedy, my then coadjutor, discovered the funis prolapsed before the head of the fetus, beyond the vulva, and pulsating, membranes ruptured, and the os not half dilated. He sent for me, and I, without much trouble, replaced it above the head of the child. It was late at night when I replaced it, and Dr. Kennedy, with his usual attention, whenever any particular case came under his care, staid up with this woman all night, and watched her most carefully. He found that in about two hours after I saw her, the funis prolapsed again, and replaced it; but during the night it again became prolapsed, and, unfortunately, ceased its pulsation before it was returned, which he did a second time. It did not, however, long continue in its proper place, but again became prolapsed, and the head was lessened twelve hours after first reposition took place, to save the perineum from laceration. It was a boy that she gave birth to. She left the hospital, on the eighth day, quite well.

CASE VIII.—A. Q., admitted into the Dublin Lying-in Hospital, early on the morning of July the 1st, 1861, in her fourth labour. The os being dilated to about the circumference of a penny, the membranes ruptured, and the head at brim of pelvis presenting, with a loop of the funis prolapsed before it, in which the pulsation was very weak and feeble, I at once commenced the task of replacing it, which, in a short time, I was able to accomplish. Labour went on slowly, considering it was her fourth pregnancy, and the child, a girl, alive and strong, was born two hours after reposition had been effected. The woman and her offspring left the hospital, on the eighth day, alive and well.

CASE IX.—R. M., admitted into the Dublin Lying-in Hospital, on the morning of August the 29th, 1861, in her second labour. Upon examination it was found that the os was fully dilated, the membranes ruptured, the head entering the brim of the pelvis, with a long coil of pulsating

funis prolapsed beyond it. I saw her soon after admission, and commenced to replace it, which I was able to do in about ten minutes, having to cease manipulation during the pains which were bearing down, or expulsive ones. The child was born in half an hour after I replaced the cord, alive and strong. The mother and child left the hospital alive and well, on the eighth day.

CASE X.—M. N., admitted into the Dublin Lying-in Hospital, on November the 19th, 1861, in her first labour. Upon examination it was discovered that the funis prolapsed before the head, the os was half dilated, and the membranes entire; she was not at the full term of gestation. Under all the circumstances the master (Dr. Denham) considered it better not to introduce the hand into the uterus, but to wait until the os became fully dilated, and then to rupture the membranes, and attempt to replace the cord. Having been given the care of the case, I, some hours after, ruptured the members, and returned the funis; but as I did so, I could not distinguish any pulsation in it, and considered the only chance I had of saving the child, was to deliver with the forceps at once, which I did, and had the satisfaction of finding the fetus alive and strong, although twenty-five minutes had elapsed from the time reposition had been effected. It did not, however, survive long, for it died on the fourth day of its existence. The mother left the hospital well on the eighth day.

DR. M'CLINTOCK related the following case of *Inversion of the Uterus*.

Mary O'Hara, aged 66, never married, was admitted to the chronic ward of the Lying-in Hospital, 1st April, 1862. Her changes ceased 15 years ago; and she never had any symptom of uterine disease till the present complaint seized her, six weeks ago, under the following circumstances:—She had been engaged in washing, when her stomach got sick, and she retched violently. During these efforts she suddenly felt something “fall from her,” and a large tumour made its appearance beyond the vulva. Some hemorrhage took place at the same time. The tumour was replaced by a medical man; but descended again, and remained down. This tumour (of which a coloured drawing was exhibited to the society) was fully seven inches in length. Its base, or that part nearest the pelvis, was the everted vagina; then came the completely inverted uterus, and lastly a fibrous polypus the size of a chestnut, growing from the fundus of the inverted uterus by a short neck. The openings of the Fallopian tubes were discernable, and each admitted the passage of a probe for about an inch or more. There were several large patches of ulceration on the uterus and vagina, and a very abundant muco-purulent discharge was constantly present. The case was seen by Drs. Churchill, Denham, Halahan, Hardy, Kidd, and the hospital assistants—Drs. Kirkpatrick and Cronyn. The tumour was replaced within the pelvis by Dr. Denham, but it soon prolapsed again. On the 14th April, Dr. Denham,

the master of the hospital, removed the polypus by means of the *écraseur*. Although this was worked very slowly, yet a smart hemorrhage took place, three or four arterial branches spouting at the same time. The saturated solution of perchloride of iron in glycerine was applied, but was wholly inefficacious to check the hemorrhage. Direct firm pressure alone controlled the loss; and this had to be kept up with the finger for some hours, by which time all disposition to bleed had ceased.

On the 21st April, Dr. M'Clintock, who had charge of the hospital in the absence of the master, Dr. Denham, applied a whipcord ligature around the uterus, near its junction with the vagina, and retained it *in situ* by means of Levet's canula. She complained of much pain when this was drawn tight. The same evening the catheter had to be passed, and there was a good deal of bloody discharge from the tumour. No serious or alarming symptom made its appearance, and the ligature was left on, being occasionally tightened, till the morning of the 24th, when Dr. M'Clintock, aided by Dr. Churchill and the assistants—Drs. Kirkpatrick and Cronyn—completed the extirpation of the uterus with the *écraseur*, the chain of which was placed in the furrow made by the ligature. Although the uterus was thoroughly strangulated by the ligature; still the latter had cut only a very short distance into the substance of the organ. The action of the *écraseur* caused her very intense pain, which she bore with the greatest fortitude. The pulse flagged, and a profuse perspiration broke out during the operation. Some bleeding ensued, but was arrested by cold.

From this time forward she progressed satisfactorily, no bad symptom of any importance having presented itself. The uterus and the polypus were exhibited to the society. The former was about the size of an apple; and the remains of the broad ligaments were visible in its peritoneal cavity. From the time of the application of the ligature small doses of opium were administered to her every night, to annul pain and procure sleep—both which effects were obtained.

Desiccated Coagulum expelled from the Uterus.—DR. J. R. KIRKPATRICK exhibited a substance solid throughout, and forming a perfect model of the interior of the uterus, of a mottled red and black colour on the outside, which was expelled on the twenty-fifth day after delivery from the uterus of a patient named Bridget Flinn, aged 19, who was delivered of her first child in the Lying-in Hospital, Rutland-square, last February.

There was some slight red discharge from the vagina for two or three days before its expulsion, but no pain was complained of. She was dying of congestion of the lungs, and expired about 10 hours after it came away, having been in a semi-unconscious state for three or four days previously.

Her labour had been favourable; no hemorrhage. She went on very well for the first eight days, and had *no uterine tenderness all through*. On examination after death, the uterus was found of the usual size for the period after delivery, quite free from any sign of inflammation, and containing a small quantity of black semi-coagulated blood in its cavity.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK
MEDICAL AND SURGICAL SOCIETY.^a

SESSION 1861-62.

DECEMBER 23rd, 1861.

DR. POPHAM, President, in the Chair.

Annual Report of the Lying-in Department of the Cork Union Workhouse, for the Year ending December, 1861. By JOHN POPHAM, A.M., M.B., T.C.D., Licentiate of the King and Queen's College of Physicians, &c., &c., Medical Officer.

In presenting a brief report of the Obstetric department of the Cork Workhouse, I cannot but be sensible that, to readers familiar with the admirable statistical returns of the Dublin Rotunda Hospital, and which have been furnished from such a vast number of patients by successive Masters of this valuable institution, our amount of cases must appear trifling. As, however, it is probable that the class of patients relieved in workhouses is, in some measure, of a different grade from the persons usually admitted into ordinary lying-in hospitals, and about which we have not, as yet, very accurate details (I allude to the Lock and the unmarried cases), I hope that, small and imperfect as is this report, it may not be without interest.

The whole number of cases delivered during the year, in my wards, amounted to 147. Of this number 29, or one-fifth, were transferred from the lock wards of the house, which generally contain about one hundred patients, of which class the prevailing disease is syphilis. Of the 29 cases, 11 aborted at various periods of gestation, and 18 were delivered of living children. Some of these children were, of course, puny and covered with syphilitic blotches, but the great majority of them consisted of full-grown, healthy children, whose thriving properties were by no means deficient. I may observe here that it causes no small surprise to visitors of this department, to see there such fine children, the general opinion being, as is well known, adverse to the probability of

^a These reports were supplied by Dr. W. P. Bernard, Secretary to the Society. We deeply lament to have to announce that, while these sheets have been passing through the press, he too, like so many other labourers in the cause of humanity, has fallen a victim to typhoid fever, caught in the discharge of his arduous duties as a dispensary physician.—ED.

women of this condition bearing a healthy offspring. Of course, we must receive statistics of this kind with some modification; but it is enough to mention here the simple facts.

While upon this subject, I may remark upon the extraordinary attachment which, according to my observation, their mothers show towards this class of children, and which is also somewhat different from the current opinion. I think that I seldom, if ever, witnessed such genuine maternal affection as was shown towards their offspring by most of these poor women. I am confident that workhouses, whatever else may be their faults, have prevented many cases of child-desertion, or, worse than desertion, of child-murder. By providing an asylum where the outcast female can remain in safety during parturition, the laws of the land allow her an opportunity for the avoidance of crime. She might otherwise be driven, unprotected, to the necessity of being delivered of her spurious offspring in a ditch, and of thus exposing it to almost certain death. The former anomaly which existed between the penalties of the laws for such a crime, and the want of proper safeguards against its commission, has been in part done away, and a presumptive means of reclaiming the mother, even for a time, has been afforded, by awakening in her degraded condition an ennobling feeling. That the possession of the child does exercise a very strong influence in many cases, is certain; and in the community of feeling which loss of caste produces amongst these women, a want of maternal feeling is regarded with strong reprobation. Independent of the feeling of pity for an innocent being deprived of the usual paternal protection, and exposed to the frowns of society as the offspring of guilt, the mother is drawn to it as giving her some compensating object to live for; she feels that she has a hostage for a return to her lost social position in her child. If the child should die, in some cases grief for its loss has led to thorough reformation, and, though it may not be the usual result, yet the maternal feeling, once excited, is never wholly forgotten.

Of the women delivered in the workhouse, 58 were married, and 89 were unmarried; deducting from the latter the 29 cases belonging to the lock wards, 60 cases remain whose offspring was illegitimate. I ought, however, to mention, as some explanation of this large number, that the workhouse is the only hospital in Cork which receives unmarried puerperal females, as the Cork Lying-in Hospital is intended only for married women.

Besides the 11 cases of abortion among the inmates of the lock wards, there were 12 others, making 23 in all. Of the latter number three occurred in the case of married women, and nine of unmarried. We had thus 20 cases of abortion and miscarriage in 89 unmarried females, and only three in 58 of the married cases; showing that, in the former instance, about two children out of nine failed to arrive at perfection, and in the latter only two out of 39. Independently of the importance of marriage as a civil

and religious rite, closely interwoven with the happiness of social life, facts like these supply the strongest commentary upon its physiological value, as the best safeguard for the preservation of the human species.

As, in the whole number of parturients, there was one case of twins, and one of triplets, the total number of children, supposing all to have come to perfection, would have been 150. If we deduct the 23 cases of abortive birth, we have 124 women yielding 127 children. Of these the number of male infants born alive was 70, and of females 57. It is a curious circumstance that, while among the married cases the proportion of the two sexes was about equal, being (exclusive of the abortive cases) 27 males to 29 females, there was a remarkable excess of males among the unmarried, namely, 43 males to 28 females. Of course, from such small numbers, it would be imprudent to generalize hastily, but the circumstance is significant.

The mortality amongst the infants born alive, within the fortnight of their stay in the lying-in wards, amounted to 12. Of these, three belonged to the married women, and nine were illegitimate. Among the 12 are included the three children of the triplet case, and some cases of secondary syphilis. The remainder died of convulsions, or a physical inability to live. We had the curiosity to weigh one of the latter class, which died on the ninth day, and found its weight to be exactly *two pounds three quarters*. I may observe, that several children, born in a weakly state, with marks of secondary syphilis, were cured by small doses of mercury with chalk, steadily administered, and seldom exceeding one grain a day. In many of these cases the mothers had no eruptions on the skin at the time of their confinement, but had previously been affected with primary or secondary syphilis. I have been averse to administer mercury to syphilitic women when pregnant, from the liability to abortion, which I think that I have seen to arise from it.

The case of triplets was a distressing one. The mother, Ellen Cogan, was confined of a miserable puny infant in Cork, upon the evening of May 2nd. She was brought in a car to the workhouse, at seven o'clock of the evening of the next day, with the umbilical cord tied round her leg, and evidently sinking from hemorrhage and exhaustion. Labour pains came on severely about an hour afterwards, the liquor amnii was discharged at one o'clock, A.M., and at two o'clock a second child was born. At half-past three o'clock, A.M., another gush of waters took place, and a third child was born half an hour afterwards. In all of them the head presented. The placentæ, one single and another double, were retained, and had to be extracted. The mother, who was obliged to be supported during labour with a large amount of wine, sank a few hours subsequently. The infant born in town died next day. I got a wet nurse for the other two, which were with great difficulty kept alive for three weeks, but they finally succumbed to physical inanition.

One woman was delivered in a field near Ballintemple, walked then two miles to Cork, slept there that night, and walked to the workhouse next day; neither she nor her child suffered any bad effects.

There were but three cases of preternatural labour, one breech and two footlings. One of the footlings presented when I happened to be on the spot, and I was enabled to save its life; the mother was a partially paralytic case; the other cases were still-born, one being the second twin. There was one case of face presentation, the mother was in hard labour for 17 hours, and was delivered, three hours after the waters broke, of a living child, its weight was 11 pounds. We had several cases of protracted labour, one case of uterine polypus, complicated with pelvic distortion, required perforation of the head of the child, the details of which are given by Dr. Gardiner, in the reports of this Society. There was but one case of serious hemorrhage, it occurred after the delivery of the placenta, the patient recovered.

We had four cases of death among the women. One of these was the mother of the three children, who died of exhaustion; one died of cardiac dropsy, and the others of puerperal peritonitis. I shall say a few words upon the latter cases.

In the month of April, of this year, this disease appeared in the case of a woman named Herbert; she had good labour, and until the fifth day showed no sign of illness, but peritonitis then set in with great severity, and, notwithstanding all our efforts, ended fatally the twelfth day after her delivery. A second case, named Donohue, appeared 18 days afterwards, and was treated similarly, by leeching, calomel, and opium, and the other means usually employed, but she also died on the twelfth day. As several cases now presented themselves, I had the bedding at once removed from the wards, and the whole place fumigated with chlorine and whitewashed. There were no more fatal cases; but several others occurred which recovered; two of these seeming to be as alarmingly ill as the cases which turned out fatally. The treatment which I used with these cases was to give them a bolus of three grains each of calomel and camphor, and five of extract of henbane, every night, and a draught in the morning of four to six drachms each of castor oil and spirits of turpentine, with half a drachm of laudanum. This was employed for several days, along with leeching and fomenting the abdomen, and from what I have seen of its use, I place some confidence in it; the mercury in these cases affected the gums, but in the fatal cases which were treated by calomel and opium, it had no effect.

I have, in conclusion, to apologize for many obvious defects in my report, but our registration of cases was not sufficiently complete. This will, I hope, be remedied in the future statistics of our wards, as by the kindness of Dr. M'Clintock, of the Rutland-square Lying-in Hospital, who supplied me with a copy of the form of registry there used, we

shall endeavour henceforth to follow more closely the laudable example of that institution.

Diphtheria.—DR. W. C. TOWNSEND exhibited pathological specimens of two fatal cases of diphtheria which occurred lately in the Workhouse.

CASE I.—Margaret Manning, aged $2\frac{1}{2}$ years, admitted to hospital December 11th, died next day. This little patient had been ill for a couple of days without attracting much attention from her mother, under whose care she was; when admitted into hospital she was feeble, presenting a typhoid appearance; pulse quick; tongue red, with patches of ash-coloured exudation; tonsils red, and partially covered with same; no cough, but considerable dyspnea, and lividity of countenance.

On examining the throat, the back part of the pharynx presented the same appearance, and from the difficulty of breathing it was evident the disease had advanced into the air tubes; there was not any enlargement of the parotid or submaxillary glands. She was treated, externally, with warm turpentine, freely and frequently applied; internally, quinine, broths, and wine, but she sank within 24 hours after admission.

Post-mortem examination, which was had with great difficulty, showed back of pharynx loaded with ash-coloured exudation, the primary divisions of bronchi filled with exudation of lymph, almost quite detached, and easily separated.

CASE II.—Eliza Collins, aged 2 years, admitted to hospital on the 14th December, with sore throat and cough, feverish, and very irritable; it was almost impossible to examine her throat, and she coughed very frequently, “yet not croupy;” there was some enlargement of the parotid glands, but she was so unmanageable that it was impossible to get a look at her throat or mouth. The only thing that afforded her relief was the frequent exhibition of emetics, which always enabled her to expel a large quantity of mucous, mixed with the peculiar ash-coloured lymph deposit. Externally, warm turpentine was freely applied, and she used a linctus of borax and honey; gray powder, combined with hippo, at intervals of four hours; broths, small quantity of wine and arrow-root. She sank on the 21st, seven days after admission.

Post-mortem Examination.—The tongue, roof of mouth, and tonsils exhibited the peculiar patchy, ash-coloured appearance, but no exudation appeared in the air tubes. It may be remarked, that we had no cases of croup, scarlatina, aphthæ, or measles, in the Workhouse some time before or since this occurrence.

The pathological appearances in this disease seem to be the formation of a false membrane extending partially over the pharynx, tonsils, trachea, larynx, and occasionally into the bronchial tubes. Those parts not covered present a reddish colour, the exudations are partly detached, easy

of removal, leaving a red and raw surface, the tonsils enlarged, occasionally the parotid and submaxillary glands are much swollen.

In some cases the patients are quite amenable to treatment, and yet sink rapidly, in others they are restless and unmanageable, the disease extending into the larynx and air tubes, the breathing becomes very difficult, and the patient dies asphyxiated. I am not aware that any benefit resulted in the cases that came under my treatment from the local application of the nitrate of silver, either solid or in solution, and the same may be said, as far as my experience goes, of the strong acids.

In some cases medication seems to be of no avail; the patients sinking without an effort, as if the local symptoms were merely the outward manifestations of a poisoning of the system. In others, after a struggle of several days, the severe symptoms subside, the disease appears to be slowly eliminated, and the kidneys are invariably more or less affected. I presume the poisonous element makes its way out of the system through those channels. In my experience the convalescence is greatly protracted.

Large Biliary Calculus and Melanosis of the Stomach. DOCTOR GARDINER exhibited the stomach and a portion of the liver of a woman who died in the Cork Union Hospital. The particulars are the following:—

M. H., aged 60, was admitted, about a year ago, into the Workhouse Hospital, under Dr. Popham, complaining of disorder of the stomach. During the period of her continuance in the hospital, she felt, at intervals, severe pain in the epigastrium and right hypochondrium; she was also troubled with flatulence and acidity, and vomiting of a dark grumous matter. Her appetite was always good, so much so, that her comrades used to say that her sickness proceeded from over-eating. During her stay in hospital, until her death, a period of 11 months, she maintained a healthy appearance and condition. Her bowels were generally either confined or relaxed beyond measure, usually the former. She had the marks of old ulcers on her legs; decubitus was on the right side.

Dissection showed a very great thinness of the walls of the stomach, which was still more evident by their great transparency on being held before a light; the mucous membrane was melanotic, a large amount of a greenish-black pigmentary matter being deposited at the pyloric end. This deposit was also in considerable quantity at the cardiac orifice, and at the upper and lower margins, but less thickly dotted at the central parts. No ulceration was found, but the membrane could be scraped off without difficulty. The pancreas appeared larger than natural.

The liver was of a dark crimson colour, its texture easily broken down by the finger. The gall-bladder was enlarged to double the size, and contained a quantity of bright orange bile, thinner than usual. A large

calculus was found loose at the most depending part, it was an inch and a half long, oval, and rather thicker than the thumb, it weighed very nearly half an ounce. The kidneys and bladder were not much altered. Though the urine used to pass off involuntarily, there was no apparent lesion in the walls of the bladder.

Doctor Gardiner noticed the great size of the gall-stone, which was single, the gall-bladder being much dilated, it could move from end to end, but, from its elongated form, could not turn about in it. It consisted of cholesterine.

DR. FRANCIS D. BULLEN exhibited the stomach and portions of the intestines of a patient who had died in the Mercy Hospital, and related the following history of the case:—

Cornelius Sullivan, aged 40, a servant, was admitted to Mercy Hospital, under Dr. O'CONNOR, December 18th, 1861.

History of Case.—The day previous to his admission into hospital, returning in a railway carriage from Bandon, the window being open, and the weather very severe, he felt chilled. Soon afterwards he vomited; and feeling ill, took some brandy (half a glass) but did not feel any better. Next morning applied for relief at hospital; stated he had no previous illness up to the present attack; had always been a temperate man.

Symptoms on Admission.—Surface of body cold and clammy; extremities of a purple colour; countenance congested; appears listless and drowsy, dozing away unless aroused; answers questions readily in a quiet tone; unable to feel any pulsation in the radial or brachial arteries; pupils contracted; tongue moist; heart's action slow and feeble; incessant vomiting after each drink; bowels obstinately confined; no pain on pressure over the abdomen, nor distension; passed urine in small quantities.

Treatment.—Mustard plasters were immediately applied to epigastrium and soles of feet; and he was ordered a pill every second hour—composed of calomel, two grains; powdered opium, half a grain; and aromatic confection, to be followed by an injection of infusion of senna, 16 ounces; castor oil, two ounces; turpentine, one ounce; mixed up with the yolk of an egg. Two hours afterwards the enema came away, bringing scarcely any fecal matter; no change in symptoms; passes urine freely.

December 19th.—This morning symptoms more unfavourable; cold clammy perspirations breaking out over head and forehead; no fecal discharge. To omit pills of calomel and opium, and, instead, take the following:—Extract of aloes, 12 grains; powdered opium, 2 grains; oil of carroway, 6 drops; compound rhubarb pill, 1 scruple; mix, and make 8 pills; take one every second hour.

Eight, P.M.—Much worse this evening; breathing assuming a laboured

and stertorous character; replies to questions in an abstracted manner. Died $12\frac{1}{2}$, A.M.

Post-mortem appearances.—Heart large and flabby, an undue proportion of fat; liver nutmeg character, and enlarged; spleen apparently healthy; stomach inflamed and rather contracted, mucous membrane very much inflamed, being swollen and in red patches, particularly towards pyloric end, where there was a large ulcerated patch, the mucous membrane being quite eroded. The intestines showed an amount of intense inflammation, particularly the first portion of the duodenum; the small intestines were highly inflamed, and slightly ulcerated, covered over with a mucopurulent exudation, many patches being of a vermilion colour, other parts of a chocolate colour. Kidneys enlarged and pale; right lung adherent to pleura, congested at apex.

General Remarks.—This case is interesting on account of the absence of most of the symptoms of irritant poisoning during life, and the anomalous *post-mortem* appearances, which certainly indicated the existence of one of the corrosive irritants, which could not be detected in the stomach or its contents after a careful analysis by Dr. Blyth and myself. We could not find any traces of arsenic, and only a slight trace of the presence of mercury, which was accounted for by the administration of calomel on admission to hospital. Dr. Blyth then tested for oxalic acid and potash, but could not obtain any trace; the contents of the stomach were extremely alkaline, but the corroded state of the mucous membrane, and the general appearances, justified the suspicion of oxalic acid having been administered, yet there was no trace of its existence. On inquiry afterwards, I was informed that on the 17th of December, the day previous to his admission to hospital he had taken what he thought was a dose of epsom salts in a cup of hot tea. Very shortly afterwards he vomited, and complained of a burning pain; he then took a pint of bitter ale, which he immediately discharged. The women who saw him state that it was something like coffee grounds that he vomited. He was in service as butler, where he had to clean top boots, and to use oxalic acid frequently, which confirms me in the opinion that he made a mistake, and took some oxalic acid for epsom salts.

JANUARY 8th, 1862.

DOCTOR POPHAM, President, in the Chair.

Encysted Dropsy of the Kidney; Obliteration of the Ureter; Scleroma.—DR. POPHAM exhibited a specimen of diseased kidney taken from a newborn female infant, who died with induration of the areolar tissue, in the Cork Union Workhouse. The particulars were the following:—

The mother of the infant, Mary Lenehan, was a healthy looking woman, and came to her full time. While the child was being delivered,

the midwife found some difficulty in extracting the abdomen in consequence of its large size; she drew his attention to the case shortly afterwards. The infant was of the average bulk, of a reddish-yellow or somewhat icteric colour, and, in all respects, good looking. A few hours after birth, the integuments of the lower extremities began to swell and grow rigid, seemingly to the diminution of the abdominal fulness, the temperature of the limbs sinking below par. The induration gradually extended upwards to the abdomen and thorax, enveloping and pressing on the throat, and thence proceeded to the upper extremities, but the areolar tissue of the latter did not present the same degree of unyielding hardness which that of the lower exhibited. The infant sucked a little on the first day, but refused to do so afterwards, so that the breast milk was put into its mouth with a spoon. It had constant vomiting but no diarrhea, it uttered also incessantly a faint whining cry, and gradually pined away, dying on the fourth day of coma and convulsions. The cloths, which were constantly wet, showed that the urinary secretion was not arrested.

On opening the abdomen, a tumour in the right lumbar region came into view, closely adherent to the intestines, which it pushed over to the left side. The tumour was tense and shining, and almost as large as a goose egg. While dissecting off the lateral adhesions, it was accidentally punctured, and about three ounces of a pale fluid, possessing all the characters of urine, passed off. Upon removing the parts, the bladder was found contracted and empty; the left kidney was perfect, but the right ureter, which at its union with the bladder was pervious, became almost immediately impervious, and was lost in the tumour. The cyst on being opened was found partly to consist of a dense wall, having a structure closely resembling arterial, and divisible into layers, and partly of the altered kidney. The latter was expanded into one large cavity, freely communicating with the outer cyst. The tissue of the kidney seemed broken up, and the renal vessels were sought for in vain.

On examining the areolar tissue of the lower limbs, it was found hard and resisting. The deficiency of moisture in it was remarkable, and the fat hard and granular as if congealed by cold.

The lungs were in parts very imperfectly aerated; some portions of them red and condensed, sinking to the bottom when placed in water. The liver was healthy; nothing else was remarkable.

Dr. Popham observed that the defects of conformation in the specimen presented to the Society, resembled, in many features, the morbid appearances described in the 53rd case recorded by Billard, in his *Traité des Maladies des Enfants Nouveau-nés*, from which that author concludes that it is highly probable that the excretions of the fetus are thrown out before birth into the waters of the amnion. In cases like the present, for example, the distention of the abdomen existed at birth, thus testifying

that the fluid in the cyst was of ante-natal formation, and would have passed off but for the obliterated ureter. It remained pent up in the tumour, dilating and compressing the pelvis of the kidney.

Dr. Popham also observed, that not being able to determine whether the areolar induration of the extremities, which co-existed in the case, was or was not connected with the vice of conformation in the kidney, he preferred merely to notice the fact. By those writers who do not regard scleroma as a mere cutaneous phlogosis, but as a consequence of some visceral disease, the alterations of the urinary organs are not among those usually assigned. The infant above-mentioned was of legitimate birth, and thus does not come under the cause which was suggested by Professor Pastorella for the constant prevalence of scleroma in foundlings, namely, "the attempts employed by the mothers during pregnancy to conceal their state, or to destroy the fruit of their illicit amours."

Purpura.—DR. CUMMINS read the following case:—

On the 24th of last January a gentleman called on me, stating, that for more than 12 months past he had been the subject of disease of the shoulder, and that although he had tried many remedies, and had been under the constant care of a most eminent medical man, nothing had prevented its gradual increase.

On examination, I found the entire scapular region and surrounding parts the seat of numerous burrowing ulcers, discharging a thin unhealthy matter; the intervening sound portions of skin covering an almost scirrhus condition of the cellular tissue.

The arm, as far as the insertion of the deltoid muscle, was much in the same condition, except that the hardness was not nearly so great. General health seemed pretty good; and he was able to discharge his duties, and go about without suffering more than local uneasiness, which was discomfort rather than pain.

I directed him to continue the use of cod liver oil, which he had been taking for some time, and to take a Turkish bath three times a week, while, as local treatment, I applied nitrate of silver freely, and dressed with dry lint; for this, after a time, I substituted the iodide of potassium ointment and the tincture of iodine.

This treatment acted like a charm; the hardness rapidly disappeared; the ulcers granulated kindly, and healed; and in three or four months he was almost quite convalescent. He had gained weight while taking the bath, until April 23, when the report was, that weight was stationary; and it is a significant fact that the day before this he had had epistaxis.

I now desired him to intermit the use of the bath for a week; but soon regretted having done so, as two or three of the cicatrized ulcers opened afresh, and burrowed deeply. He then returned to its use three times a week, as before.

On the 22nd of May the shoulder appeared much better; and he states that the bath increases his appetite very much, but that he has lost seven pounds in weight.

June 10.—Has taken the bath only once or twice a week since; and after the last one a number of brownish-red spots, slightly elevated above the surface, from the size of a fleabite to that of a sixpence, appeared on the legs.

June 15.—Has not taken a bath since; but the spots are now thickly scattered over the lower limbs, from the hips downward, and present all the characters of purpura simplex. There are also some large patches of ecchymosis, and there is considerable œdema. He complains of great debility.

I ordered him quinine with sulphuric acid, purgatives, and a vegetable diet. He informs me that for a long time past he has taken neither green vegetables nor potatoes.

On the 17th he was so much better as to be able to return to business; but had to come home early in a car, suffering from great exhaustion; indeed when I saw him he was almost in a fainting state. After a glass of wine the skin became hot and dry, pulse 100, spots well out, but rather tending to fade. I ordered him to take the draught which Dr. Neligan so highly recommends for purpura, viz.:—Turpentine, an ounce; mucilage, one ounce; peppermint water, one ounce and a-half.

18th.—The draught operated largely on the bowels, and caused a darting pain from the thigh along genitals, after each micturition, and the passage, of what he described as “little red strings,” with the urine. Pulse 76, tongue nearly clean, and spots fading rapidly.

On the 20th, the spots having again increased, with much œdema and ecchymosis, I ordered him 30 drops of tincture of larch, three times a day; and on the 23rd I increased the dose to 40 drops.

This medicine caused most copious diuresis, the spots rapidly faded, the strength improved, and on the 26th the report was, that on rising in the morning they were entirely absent, and that he was feeling perfectly well. After walking about for a time, however, the right leg became swollen and painful, and the spots reappeared on it, but not on the other.

On the 28th he states that the tincture continues to act powerfully on the kidneys, and that there is an occasional dart of pain along the penis, and towards the loins; the lower limbs are now almost of the natural colour, and free from swelling. I ordered him to continue the tincture, and to take five drops of Fowler's Solution of Arsenic after each meal.

On the 1st of July it was reported that the spots had completely and permanently disappeared, and that the general health was excellent. On the 4th I reduced the dose of the tincture to 20 drops; and on the 10th omitted it entirely, as its diuretic effect was so great that he feared his strength would all “turn into water.” There was no return of the disease

after this; but the shoulder, the original source of his sufferings, had become considerably worse, and was at least in as bad a condition as when I first saw him. For it I now tried a variety of local and general treatment without success; and at last, on the 2nd of August, with some misgivings, I desired him to take a bath once a week; while, at the same time, he was to continue the use of small doses of Donovan's solution for a time. The report of the 20th of October states that almost all the ulcers are healed up, and that the subcutaneous hardness has, in a great measure, disappeared, without the least return of purpura or injury to the general health.

This gentleman still continues the bath once a week; it agrees well with him; and although the shoulder is not quite well, yet when I saw it last, it was very nearly so, and was progressing rapidly in the right direction.

I have not brought this case before the Society because it presents any new features in the pathology or symptomatology of a well known disease, but because it illustrates the success of a comparatively new medicine in a disease for which, as far as I am aware, it has not hitherto been used. I was led to employ the larch tincture in this case because medicines of its class are all well known to possess astringent properties, and also because I have found it very useful in hemoptosis. I never before used it in such large doses, and so was unaware how powerfully it acts on the kidneys. *Indeed I have never used, nor seen used, so active a diuretic.*

I suppose, since the discoveries of the circulation of the blood and vaccination, there has never been an addition to medical science so much abused as the Turkish bath. I have been for the last three years in the constant habit of prescribing it, and have probably used it at least 20 times as often as any other regular practitioner in this city, so that it has often been a marvel to me that while so many have heard or seen death or disease follow in the train of the bath, I never saw the smallest untoward circumstance arise from its use except this case of purpura. I determined to publish it on account of its very novelty; and it was almost a disappointment to me when, on being obliged to send the gentleman again into the bath, the disease did not return, thus breaking a link in the chain of sequence, and driving us back to the exclusion of a vegetable diet (which, however authors may differ on the subject, I believe to be an efficient cause of purpura) as at least the main cause.

I have seen fearful convulsions follow the use of an ordinary warm bath at 96°; but I never saw anything of the kind follow the Turkish bath. Still it is impossible not to feel that the responsibility of sending a patient into this most useful bath is greater than of prescribing any other means, however dangerous, as any illness that may arise from epidemic influence, accidents, or other cause, even months after the bath has been given up, or sudden death at any indefinite period, however

remote, is sure to be attributed to it, and thus many are deprived of a most powerful adjunct to medical treatment.

The remedy for this is in the hands of the profession. Let each case of alleged injury sustained by it be discussed in scientific meetings, and then the public will be sure to make the same considerate allowances for the difficulties of our position, which are so often extended to the non-success of our ordinary treatment. There is one practical point which the case I have read illustrates, bearing upon the question at issue, viz., that when a patient is using the bath habitually he ought to be weighed frequently, and any sudden loss of weight ought to lead to a suspension of the treatment. The gentleman whose case I have read suddenly lost seven pounds, and this loss was evidently the advent of the attack of purpura.

FEBRUARY 12TH, 1862.

DR. POPHAM, President, in the Chair.

Abscess of the Corpus Rhomboideum of the Cerebellum; Muscular Rigidity.—

DR. POPHAM presented a specimen of abscess of the cerebellum involving the rhomboid body, which was taken from a woman named Brodie, aged 70, who died, Feb. 4th, in the Cork Workhouse. She had been a lunatic for a number of years; but about eight months before her death she became violent, and had to be transferred to the asylum, from whence she was returned, last November, to the workhouse as incurable. When readmitted she was totally helpless. Both the lower extremities were rigid and extended, the sensation in them being much impaired; the left hand was powerless; several ulcers of a scrofulous character existed on the neck, between the shoulders, and in the right axilla; the bowels were always confined, the urine was passed involuntarily; she had considerable fever; her pulse was excited, and skin hot; and she was constantly engaged in directing attention to her forehead as the seat of pain, and striking it: while in the asylum, she refused at first, for several weeks, to go to bed; and, from the period of her return to the workhouse till her death, she slept very little, babbling and shouting unceasingly, both night and day. When she was asked a question, she answered with tolerable correctness a few words, but quickly relapsed into incoherency—the association of her ideas being very defective. Like many lunatics, however, she had a few constant topics—such as her former place of residence, and the imaginary escape of her money through her elbows—a circumstance usually better understood in the figurative than the literal sense. She never had epileptic fits. Her death was easy, and without coma.

On examination, after death, the brain was firm and hard, and its bulk so small that Dr. Popham was curious to have it weighed—which was done in his presence by Dr. Gardiner. It weighed exactly 36 ounces.

The internal structure of the cerebrum, more especially the medullary part, was found to be of more than ordinary consistence. The cerebellum seemed very vascular; on cutting it the rhomboid body was found softened, and purulent matter was plainly perceptible.

In commenting upon the case, Dr. Popham pointed out some symptoms which seemed to have more than a casual connexion with the necroscopic appearances. Among these was the constant *wakefulness*. Should we attribute, he asked, the want of sleep to the structural lesion? Has the cerebellum any agency in maintaining, vicariously, the involuntary actions of the system during the sleep of the brain proper? If so, lesions interrupting its operative functions ought to react upon the cerebrum, and disturb the natural succession from action to rest.

Again, another symptom was the *rigidity* of the muscular system. Spasmodic extension seems to occur in this disease rather than paralysis. In the present case it appeared to have been the sequel of previous restlessness and excitement. Now, physiological experiments have proved the wonderful influence of the cerebellum in coördinating the actions of the muscles, by showing the vagueness of purpose with which the muscular movements are carried on when this organ is removed. Dr. Popham mentioned an interesting example, bearing some resemblance to the above, in the nineteenth case cited by Dr. Bright in the second volume of his *Clinical Reports on Diseases of the Brain*. In that case there was also an unhealthy state of the rhomboid body. It occurred in a child who died of hydrocephalus, and in whom there was a similar degradation of the part above-mentioned, and a similar diminution of size in the brain, with increased firmness in the medullary part, so that the knife almost gave the sensation of cutting through soft cartilage. In Bright's case the chief symptoms were rigid and extended limbs, great restlessness, constipated bowels, and imbecility of mind. Dr. Bright further noticed that corresponding effects were produced in another case, where the cerebellum was not diseased, but unduly compressed. Dr. Popham also remarked, that in a case of acute abscess of the cerebellum, recorded by Dr. Gordon in the fifteenth volume of the *Dublin Quarterly Journal of Medicine*, muscular rigidity was a prominent symptom.

Albuminuria; Hypertrophy of the Kidneys; Nutmeg Liver; Hemopericarditis.—DR. FINN exhibited pathological specimens of the above, and detailed the following case;—

Henry Whitston, aged 22, a tailor, was admitted into the North Infirmary, on the 8th January, 1862, labouring under anasarca of face and upper extremities. He stated that he had been under treatment for a similar attack about 16 months previously, in St. Mary's Hospital (London), and that he was discharged, much improved in health, and, as

he supposed, cured. His habits have been extremely intemperate; and soon after leaving hospital he indulged, to excess, in the use of ardent spirits—gin being his favourite beverage.

Symptoms.—On the occasion of his admission to the infirmary—dull pain in lower part of back; pulse 76; skin dry; thirst and costiveness; urine highly albuminous; resonance of chest normal; muco-crepitating rales heard anteriorly and posteriorly. January 18.—Suffered much from irritability of stomach, having immediately rejected everything swallowed. On this occasion he also complained of pain referred to the precordial region, which, on the application of the stethoscope, revealed the physical signs of pericarditis in their most exaggerated form. January 20.—Difficulty of micturition. January 22.—Scarcely any urine has been secreted for the last 24 hours; headache. January 26.—Symptoms as before; a very loud friction sound still heard over region of heart, and a feeble murmur at the apex. January 30.—Kidneys have ceased to secrete; very decided aggravation of all the symptoms; breathing laboured; pulse scarcely perceptible. Death took place at 6 P.M., after an attack of convulsions.

Autopsy.—Lungs congested; pericardium contained a very large quantity of fluid, in which blood preponderated to such an extent as to suggest the probability that it was derived from an aneurism in proximity. This, however, was not the case. The two surfaces were closely adherent at some points, and at others the uniting medium consisted of bridges of lymph, easily broken up. The heart was hypertrophied to a moderate extent. Some decolourised fibrin extended from the right ventricle into the pulmonary artery. The pulmonary and aortic valves were both healthy. The mitral valves, to which some fibrin was adherent, were thickened and congested to an extreme degree. The kidneys were much congested, and very firm in their texture, the right and left weighing respectively 10 ounces 2 drachms, and 12 ounces. The liver offered a well marked example of nutmeg discolouration of this organ.

Remarks.—In reference to this case a question suggests itself whether there existed any relation between the hypertrophy of the kidneys and the suppression of urine adverted to? In several cases of renal hypertrophy, in connexion with albuminuria, the writer has observed suppression of this secretion; whilst, on the other hand, he has frequently noticed that the secretion coexisted in normal quantity with an atrophied condition of those organs; yet, in the latter circumstances, an arrest of the secretion may, with more reason, be anticipated, the area of the secreting surface being necessarily more circumscribed. The pathological import of such cases would appear to be that the amount of secretion is inversely as the volume of the kidneys.

CITY AND COUNTY OF LONDONDERRY INFIRMARY AND
FEVER HOSPITAL.

REPORT FOR 1861.

With some Remarks by T. H. BABINGTON, M.D., Surgeon to the Infirmary.

SOME of the cases enumerated in the following abstract were of sufficient interest to demand being further noticed, and, for convenience sake, may be taken in the order in which they are placed.

<i>Return of Patients Admitted into and Treated in the City and County of Londonderry Infirmary during the Year ending 31st December, 1861.</i>					
Remaining 1st January, 1861, ...	65				
Admitted to 31st December, 1861, ...	590—Total, 655				
Discharged Cured and Relieved, ...	545				
Incurable, ...	4				
Irregular, ...	4				
Died, ...	31—Total, 584				
Remaining 1st January, 1862, ...	71				
Extern Patients attended during the year, ...	729				
<i>City of Londonderry Fever Hospital.</i>					
Remaining 1st January, 1861, ...	1				
Admitted to 31st December, 1861, ...	40—Total, 41				
Discharged Cured, ...	31				
Died, ...	4—Total, 35				
Remaining 1st January, 1862, ...	6				
<i>Numerical Abstract of Cases of Diseases and Accidents and Deaths for the Year 1861.</i>					
ACCIDENTS.	No.	Died.		No.	Died.
Burns and Scalds, ...	11	2	Anthrax, ...	6	
Dislocations of—			Cancer, ...	15	
Ankle, ...	2		Diabetes, ...	2	
Fingers, ...	2		Dropsy, ...	8	2
Fibula, ...	1		Erysipelas, ...	2	1
Shoulder, ...	2		Fever, ...	40	4
Fractures of—			Hernia, ...	4	
Arm, ...	8		Hydrocele, ...	2	
Clavicle, ...	1		Diseases of—		
Fingers, ...	12		Brain, &c., ...	22	2
Jaw and Nose, ...	1		Bones and Joints, ...	18	
Leg and Thigh, ...	7		Heart and Lungs, ...	108	16
Patella, ...	1		Stomach, Liver, Bowels, ...	70	4
Pelvis, ...	2	1	Eyes, ...	23	
Ribs, ...	5		Skin, Tumours, Ulcers, ...	69	
Injuries of—			Kidneys, Bladder, &c., ...	13	1
Head, ...	8		Uterus, &c., ...	6	
Spine, ...	1	1	Rheumatism, ...	47	
Eyes, ...	4		Scrofula, ...	15	
Wounds and Contusions, ...	45		Whitlow, ...	8	
Abscesses, ...	14	1	Venereal Diseases, ...	23	
Aneurism, ...	2	1			

Abstract of Cases continued.

OPERATIONS.	No.	OPERATIONS	No.
Amputations of Arm, ...	4	Removal of Cancerous Lip, ...	1
Amputation of—		Minor Operations, ...	40
Fingers, ...	10		
Breast, ...	1		
Toes, ...	1		
Total number of Days passed by Patients in Hospital, ...	21,146		
Total number of Days passed by Fever Patients in Hospital, ...	913—22,059		
Average number of Days passed by each Patient in Hospital, ...	35		
Number of Beds, ...		48 Male.	
Ditto, ...		24 Female.	
	Total, ...	72	
Average number of Beds occupied Daily, ...		58	
		£	s. d.
Average Cost of Hospital and Fever Patients, including all expenses, ...		2	4 7½
Average Cost of Hospital and Fever Patients, exclusive of Salaries, ...			
Wages, Annuities, amounting to £493 14s. 3d., ...		1	10 5½
Daily Cost of each Patient, including all expenses, ...		0	1 4½
Daily Cost of each Patient, exclusive of Salaries, Wages, Annuities, ...			
amounting to £493 14s. 3d., ...		0	0 11½

The burns and scalds were all cases of considerable severity.

The first of the fatal cases was caused by the patient falling into a vat of boiling potale, in a distillery. He was scalded from the pelvis to the toes, and died 36 hours after the receipt of the injury, never having rallied from the shock.

The second fatal case occurred in consequence of burns inflicted by the sufferer's being for some minutes buried (almost) in the walls of a burning steam mill, where he was actively engaged in assisting to extinguish the fire. His back, abdomen, legs, and arms were very extensively superficially burned. The accident occurred about 12 o'clock noon, and he died at eight next morning. He never rallied from the shock to his nervous system; had excessive vomiting; and complained of intense thirst, and a feeling of intense cold.

In another of the cases—by no means an extensive burn of the foot—when almost healed, and four weeks from receipt of the injury, very marked and acute tetanic symptoms presented themselves, but yielded to the free exhibition of liq. opii sedativ (Batley's) and tinct. canabis Indica, in half drachm doses of each, every third hour.

The dislocation of the fibula at its head, an accident of rare occurrence (Sir A. Cooper mentions only one case from direct violence, and connected with compound fracture of the tibia), was the result of a piece of iron heavily striking against the leg. No other injury was sustained. The nature of the injury was easily ascertained. The head of the bone was restored to its place, and retained in its position by compresses of lint,

supported by small gutta percha splints, and the whole limb placed on M'Intire's splint, with the foot elevated. The patient was discharged in two months, with a perfectly useful limb.

The fracture of the upper jaw and nose was the result of direct violence from a blow of a heavy piece of iron. Strong ropes which held this in its place gave way, and it fell with much force against the man's face, and smashed in the antrum and side of the nose, and inflicted a severe wound, besides fracturing the bones, and driving them down almost through the roof of the mouth. The man recovered, without a bad symptom, with very little deformity, and the nasal duct escaped.

Cases of fracture of the pelvis are of rather unusual occurrence. In one of the cases the fracture appeared to run through the acetabulum and ilium. The man fell from a loose stone wall, and rolled over among the falling stones. He made a good recovery.

The fatal case was caused by a cask of porter rolling against and over the man. He lived not three hours after the accident. On *post mortem* examination the cavity of the pelvis was full of blood, the bones of the pelvis, ilium, ischia, and pubes fractured extensively; and the iliac arteries both wounded, and opened by some of the fractured spiculæ.

The fatal case of aneurism occurred in a man aged 30. He had all the symptoms of acute laryngitis; and one night suffocation seemed so imminent, that we apprehended the necessity of operative interference. The symptoms, however, yielded to the remedies resorted to—as leeching, blistering, calomel and opium—and we had pronounced the patient as convalescent. Soon after, the house surgeon was summoned to his bedside; the patient had felt weak, asked for a drink; a copious flow of arterial blood issued from his mouth, and in a few moments he was dead. His friends immediately removed the body, and we were refused an examination. No doubt here we had an aneurismal tumour pressing on the larynx. This was the first illness the patient had ever suffered from.

Amongst the venereal diseases were four very bad cases of phagedæna of the penis. They were treated by the local application of nitric acid, followed by nitric acid lotion and extract of conium, and the free exhibition of opium internally; when the pain was very urgent, a grain every third hour. This treatment was in each case successful.

Cases in Midwifery. By DILLON KELLY, Medical Officer Milltown
Parochial Dispensary.

Puerperal Convulsions successfully treated without Venesection.—Anne C., a primipara, aged 23, of full habit, and stout make, the subject, about two years since, of an attack of melancholia, for which she was successfully

treated in the asylum here, and produced by the heartlessness of a young man she was much attached to, and to whom she was on the eve of being married, suddenly breaking off the match in consequence of some disagreement about her fortune.

Obtaining a new beau, she got married about eight months since, but without the knowledge of her father, a small farmer in comfortable circumstances.

Her husband not having a house of his own, and living with his father, took lodgings for her in town, but not receiving her fortune, for which only he married her, he was not so attentive to her as he should be, whilst her own family, now that she was disposed of, and wishing to drive a hard bargain, seemed equally determined to forget her.

Under these circumstances great anxiety and depression of mind were the results, which was coupled with a poorer diet than she was accustomed to, and it is not to be wondered at that a sudden shock was productive of puerperal convulsions in the seventh month of utero-gestation.

As they lodged in Meeting-house-lane, just at the back of my residence, I saw her during the first attack, which occurred at 10 A.M.

On the cessation of the fit I made an examination, and found the os uteri dilated to the size of a crown, but its anterior lip more especially hard and rigid as whipcord, and the urine 1020 and albuminous.

To induce relaxation I at once gave four grains of tartar emetic, and half a grain every half hour afterwards to keep up nausea, and, as a matter of precaution, had her hair, which was long and most abundant removed.

At one, the os was soft and dilatable; at three, it was fully dilated and the head descending steadily; and at half-past three, she was naturally delivered of a living infant, but, as already said, at least six weeks prematurely.

Her bowels being confined, I then gave her five grains of calomel, and at eight P.M., three drops of croton oil, as she had three fits since her confinement, but each evidently shorter and less severe than the preceding one.

Second day.—Bowels freely opened during the night: the nurse said they had been very much neglected; had two fits during that period, urine still albuminous.

Every cause, therefore, likely to be productive of pressure on the vessels of the kidneys being removed, the restoration of the healthy urinary secretion was the next step to be attended to, and with this view I gave 10 grains of tartaric acid, freely diluted, every second hour.

On the third day the fits had totally disappeared, but mania of a mild type, and evidently puerperal, had developed itself instead. I could, however, obtain none of her urine as she passed it under her, and besides obstinately shut her mouth against her medicine.

On the sixth day the mania also had disappeared, and, with the exception of a peculiar cast of countenance, and at times a disinclination to answer questions, she was much better than could possibly be expected, or even hoped for under such discouraging circumstances.

Suffice it to say, she was perfectly convalescent on the tenth day, and that her infant died on the seventh, whose aged looking and wrinkled face, and dry, glazed, copper-coloured, and psoriatic appearance of skin on the legs, arms, and backs of the hands reminding forcibly of infantile syphilis, but too clearly indicated blood contamination.

Case of Vesico-Vaginal Fistula.—A primipara, aged 37, who had married late in life, and arrived at her full period, was seized with labour pains, on Thursday, the 25th May, 1860, at 10 A.M.; at four the following morning the membranes gave way, their rupture being followed by a scanty discharge, after which her pains increased in severity, but with long intervals; between eight and nine the intervals became shorter, and about noon I saw her.

She was most restless and uneasy, in truth a very bad patient; appearance, anxious; pulse, quick; the parts dry and tumid; os, high, thick, hard, rigid, and dilated to about the diameter of two inches and a-half; head, which was very firmly ossified, just perceptibly advancing; pains frequent and much complained of; bowels had been well freed by medicine in the morning, and she passed water freely up to about an hour before my visit, late in the day.

Anticipating from these appearances, something unpleasant, I hesitated in having recourse to tartar emetic, and gave ten drops of laudanum, at once, with 40 drops for bed time, desiring them to send for me in the morning, if she was not well, when I determined, should the state of the os admit of it, to have delivered her with the forceps.

About noon, next day, she was naturally delivered of a dead fetus, and when I saw her on the following Monday, sloughing of the vagina was setting in, finally terminating in vesico-vaginal fistula, which fearful sequela, the lucky midwife obtained the whole credit of inflicting, and of which, it is needless to say, she was as innocent as the Chairman of the Board of Guardians.

Most fortunate, therefore, was it for my reputation, both local and general, that they did not send for me, else I should have been added to that black phalanx of "dispensary doctors" who use the forceps too recklessly.

For the first six weeks her sufferings were the most excruciating, the cry being never out of her mouth, unless when under the influence of an opiate; and the clitoris, which one would suppose should have been outside the area of pressure, having also suffered, was a source of torturing agony to her, whenever the urine came in contact with it.

It presented the appearance of an irritable fungoid looking mass

of erectile tissue, similar, if such was possible, to a loose fasciculus of fungoid conical papillæ, in a state of granulation, each papillæ, or granule, perfectly isolated, and surrounded by a minute ring of sloughy looking fibrous membrane, and some of them taller or longer than their fellows.

In the middle of June, cicatrization had become decidedly established in the vagina, and, as it progressed, it was but too evident that it was unmistakeably contracting that canal, the contraction being produced by two or three distinct well defined bands, analogous to the cicatrices of a burn.

In July the contraction was steadily on the increase, and in the latter end of that month, had apparently attained its acme, the diameter of the vagina at its sphincter being then not more than one inch, whilst its uterine extremity, or upper two-thirds, was apparently quite normal.

Having repeatedly attempted to ascertain the size and site of the fistula, but unsuccessfully, I looked on that peculiar disposition of the parts as most favourable, and had come to the conclusion, that a vulcanized india rubber hollow instrument, of a dumb bell form, with a perforated head, like the nose of a watering pot, a neck just the length of the cicatrix, to keep it steady in its place, and an inferior reservoir and stop cock, would at the worst make her so far comfortable, that her life would not be a constant burden to her.

That idea, however, was not carried out, for, fortunately, I brought influence to bear on her; she consented to go to town, got under the care of Dr. M'Clintock, who most successfully operated on her, and she is now as well and happy as she ever was before the unfortunate occurrence.

The treatment was hence cleanliness, matico injections, and opium, of which latter drug she took, after the first few days, eight grains in the four and twenty hours, four in the morning and four in the evening.

Weak solution of chloride of lime, was, in the first instance, had recourse to, but she was so irritable that it could not be borne; then the liquor plumbid iacit. dilut., which was also productive of much suffering, so that in the end I was compelled to have recourse to matico, which was the only lotion she could bear, and which certainly was, in her case, most beneficial. Yet it is an interesting and important question for discussion, whether or not the matico had anything to do with the contraction, for if so, it would be a highly objectionable application in similar cases.

On Paralysis; a Lecture. By O. BANG. Translated from the *Bibliothek for Læger* for July, 1861, by WILLIAM DANIEL MOORE, M.D., T.C.D., M.R.I.A., Honorary Member of the Swedish Society of Physicians, and of the Norwegian Medical Society; Corresponding Member of the Royal Medical Society of Copenhagen.

THE disease I am about to speak of requires not merely such casual remarks and cursory observations as might suffice in our ordinary therapeutic conversations; neither does it belong to the many new affections which the present century has unfortunately added to our nosology; it is as old as our science; but the accurate investigations of late years have added so much to our knowledge of the subject, that a more detailed description is rendered necessary. It is requisite, however, to bear in mind that this must be adapted to the time which, in a therapeutic course, can be devoted to a single disease; and an excellent English physician remarks, that "to clinical students there is no greater impediment to knowledge than over-teaching." I shall lay before you as much respecting the diagnosis and treatment of paralysis as you will at first require for your practical course.

Paralysis is an abolition, in a greater or less degree, of vital manifestation in the organs of sense or motion; ordinary impressions are feebly or not at all perceived; sometimes even unusual impressions produce no effect. It may occur suddenly or gradually, with or without premonitory symptoms; it may be more or less extensive, complete or incomplete, simple or double, when both perception and motion are wanting.

If we suppose the nervous power, like electro-magnetism, to be developed in an induction apparatus placed in the greater or lesser central organs of the nervous system, we may arrange the causes of paralysis accordingly. By continued use, without corresponding renovation, the nerve-force is worn out—*idiopathic paralysis*; if the circulating medium—the blood, or the vehicle—the nerve-mass, have not the necessary properties, development will take place improperly, or not at all—*sympathetic paralysis*; if the telegraph wires—the nerves, are not in order, it avails not that the offices—the organs of sense and the muscles, are faultless, just as it is useless that the former be in their normal condition if the latter be not so.

Divided according to its causes, paralysis therefore becomes:—

Idiopathic—arising from a consumption of the powers themselves, by active and passive over exertion corresponding to their renovation neither in time nor extent, both in the animal and vegetative sphere; perhaps also from cold.

Symptomatic—produced partly by blood-poisoning, ponderable and imponderable, partly by mechanical and organic defects in the centres,

periphery, or adjoining parts acting directly thereupon, of the nervous system.

To the foregoing we may add the *sympathetic*, a reflex paralysis from disease in other organs, especially the abdomen.

Like all diseases, this is affected also by age and sex; hereditary predisposition comes, perhaps, more rarely under consideration.

So far preliminarily respecting the causes, the more accurate investigation of which I shall defer until I speak of diagnosis.

Paralysis is a general term for the disease, which receives a different name according to its seat in the organs of perception or motion.

Paralysis of Perception is also named differently, accordingly as the inner or outer senses are affected: light, hearing, smell, taste, and touch. I shall pass over all the others, and dwell upon the last or more universal, which manifests itself under two forms, and is recognised when a pin can be thrust into the skin without the patient being aware of it.

When the outer or inner surface of the body does not perceive what comes in contact with it, it labours under anesthesia; neither form, consistence, nor temperature is distinguished; the internal cavities and canals do not perceive that they are filled, consequently the bladder, for example, the rectum, the stomach, do not contract, just as the voluntary muscles are not sensible to the orders transmitted to them, and the genital system is in vain acted on by the ordinary impressions—in other words, anaphrodisia exists.

From anesthesia we must distinguish the want of perception of pain, analgesia, which is most frequently combined with the former, but may exist alone. I have myself, while under the influence of chloroform, felt the knife, but not the pain which its deep incision would otherwise have produced. I have frequently heard the same from others, where lamentation, of which the patient was unconscious, seemed to prove the opposite. Like anesthesia, it may be universal or local, depending on a central or on a peripheric lesion; it may be combined with spontaneous pain, and may or may not coexist with paralysis of motion.

Fallacious perception of the temperature of objects; for example, that what is warm feels cold, or *vice versa*, belongs, like other hallucinations of the senses, to the dysesthesiæ, which I shall not here notice.

Paralysis in the muscles alone is often called paralysis or paresis, while the more distinctive term, acinesia, as opposed to anesthesia, would be more appropriate. In this form the muscles, whether voluntary or involuntary, do not fulfil their function; yet, how far this may or may not depend upon anesthesia it is difficult to decide. The voluntary muscles do not obey the will, but are capable of reflex contractions, as results of other impressions on the skin, of galvanism or of certain poisons; or they may be relaxed, when they ought to be contracted—for example, in fright. Where it does not occur suddenly, the premoni-

tory symptoms are those of a central or peripheric lesion, which often continue after the paralysis manifests itself. These are: perceptions—as of weight, drowsiness, formication; more rarely, there is even violent pain; involuntary oscillations and tremors are observed, which, in a particular species of the disease, especially when the patient attempts to move the muscles, amounts to violent spasms—paralysis agitans. Flaccidity and atrophy of the muscles may sometimes both be felt and seen, as well as a change of form where individual muscles suffer, and various deformities of the body and limbs, produced by the antagonistic contractions; the temperature is often diminished, sometimes the areolar tissue is infiltrated.

The symptoms are in other respects very different, according to the seat of their cause; namely, whether this be situated in the centre or the periphery of the nervous system, or in the muscles, whose contractility may, for a time, be lost in consequence of over exertion, pressure, or injury, or too constantly in atrophy, in heterotrophia adiposa, or helminthiasis—trichinia. Hence a division, not unimportant, with reference to prognosis and treatment, into nervous and muscular paralysis, which a recent author terms myopathy.

As new means of confirming diagnosis are daily discovered, modern observation has recently applied an old remedy for this purpose. Electricity has been converted by the French writer, Duchenne, into a neuroscope or myoscope; thereby we may decide how far contractility still exists in a muscle. It is difficult to determine whether an internal want of action depends upon paralysis, or how far a deformity is the result of the same, nor is it easy to detect the dissimulation, especially of analgesia, which malingerers seem to be by practice capable of carrying on, and it is often difficult to discriminate the several varieties of the affection so as to found a rational method of treatment thereupon. This I shall now proceed to examine more minutely.

The general *idiopathic* paralysis, where neither the knife of the anatomist, nor chemical, nor microscopic examination, nor a strict investigation of the history and symptoms of the case, are capable of revealing any material cause, leaving us to the inference that the lesion is rather of a dynamic nature, is recognised by—

(a) The *causes*, namely, everything which exhausts the strength without corresponding compensation, whether direct over-exertion of mind or body, in a healthy or morbid state, fevers, spasms, pain; external violence, cerebral disturbances, intense cold, lightning, animal magnetism [!]; mediately the paralysis may proceed from evacuations in the vegetative system, especially of blood or semen. To this category should also be referred the, perhaps, symptomatic paralysis which occurs in hysteria. Other forms of paralysis, too, belong to this class, which, however, I believe deserve a place rather among the symptomatic varieties,

as the result of blood-poisoning, many of them leaving not a trace after death.

(b) The *symptoms*, which have scarcely any separate distinctive stamp, and only very seldom that which usually characterizes the other purely dynamic diseases: intermittence and transitoriness, nor is it always that the affection occurs suddenly, and lasts but a short time; it sometimes appears more dangerous than it is. But it is most frequently only the want of indications of other causes, which serves as a guide, together with electricity, which, at least, according to Bouchut, in this case always produces perception and contractions.

The *symptomatic* deuteropathic paralysis is recognised, likewise, partly by the symptoms characterizing the disease of which it is an accident, partly by its causes.

These are either *anatomico-pathological* anomalies in the centre or periphery, the brain, the spinal cord, the nerves, the muscles, and parts immediately in contact, or diseases of the blood.

That the paralysis is *central*, and arises specially from a lesion in the *brain*, is inferred from the preceding or contemporaneous cerebral symptoms, from the fact of its location in the organs of sense and in the vocal apparatus, from acinesis of the arm and leg of one side—hemiplegia; it may be single or double. More on this subject in speaking of apoplexy.

If the paralysis proceeds from the *spinal cord*, if it be what is called spinal, it is observed most frequently in the lower part of the body, in the inferior extremities—paraplegia; where the paralysis takes place depends, however, upon what part of the spinal cord is attacked; it may, also, gradually become universal; it is more frequently than cerebral paralysis, accompanied by anesthesia.

The causes are the material abnormalities which act by pressing on or destroying the nervous mass: inflammations, hyperemia, hemorrhages and other exudations; then atrophy, hypertrophy, heterotrophy, softening, both internally and externally, and wounds of any kind.

I shall now, more particularly, describe a variety presenting characteristic features, and, if not always, most frequently depending on one of the disorganizations in the spinal cord just alluded to; that, namely, which for nearly two hundred years has been known under the name of *tabes dorsalis*, and which now, combined with additional symptoms, has obtained another name.

This manifests itself first in the lower extremities, compelling the patient to have recourse to various efforts, not necessary under other circumstances, to move or support his body; it is accompanied with a tripping, dragging, tottering gait, the legs being often flung hither and thither in the endeavour to preserve the equilibrium; there is also a feeling as if a ligature were tied around the legs and body, a sensation of treading upon something soft, instead of on the floor; a miscalculation,

causing the foot to be lifted too high or too low; greater weariness after rest, less after continued walking, which cannot, however, be kept up very long; walking is more difficult or impossible with closed eyes, or in the dark; there is paralysis of the rectum and bladder, with alkaline urine, analgesia, wasting commencing in the paralyzed parts; sometimes extension of the paralysis over several parts, whose muscles are under the influence of the nerves of the spinal cord, but also within the domain of the cerebrum; the eyes usually suffer at a very early period, the mind last of all. A prominent symptom, in the vegetative system, is the rapid formation of bed sores. The cause is most frequently onanism; the immediate result of the latter, spermatorrhea, at first irritative, then torpid, is also the most frequent precursor or attendant of the disease, for which reason it has recently been called paralysis erotica. It is rare among women, most frequent in youth and manhood, it occurs in both the strong and weak; it may last for many years; is curable only when it is not connected with degeneration of the spinal cord. I shall speak more fully of it hereafter.

The *peripheric* paralysis is recognised, partly by its limitation to a particular locality, by its not having been, or being, accompanied by central symptoms: partly by its causes, which likewise are local, and either hinder conduction or exclude contractility; among these are arrest of the sources of the latter: of the arterial blood, by plugging of the arteries; interruption of the current of the nerve-force, by injury, pressure, internal or external (incurable paralysis of the arm has arisen from pressure of the nerve against the back of a chair during a long sleep) and disorganization of the muscles, especially atrophy and fatty change; with these must be enumerated exposure to cold, which, perhaps, acts equally on the nervous and muscular power.

Another class of symptomatic paralysis is the *chemical*, including those referrible to blood-poisoning. Hyperemia acts by pressure, and is therefore mechanical. Anemia by not restoring the exhausted nerve-force; dysemia, on the contrary, acts in another and a peculiar mode. The diagnosis can seldom be based upon chemical analysis, not much more frequently on the difference of the symptoms; most frequently it is founded upon the cause and the attendant phenomena. It manifests itself after phosphorus, arsenic, sulphuret of carbon, lathyrus, sativus and cicera, curare, nicotin, without any special signs; in alcoholism by tremor; after mercury, mostly in the arms, and by tremors; after narcotics, and especially after anesthetics, it is always double and accompanied with perfect analgesia; after lead it manifests itself as acinesia, particularly in the extensors, most frequently in the muscles of the forearm, fingers, and voice; often with partial anesthesia, wasting of the muscles, when the disease lasts long; and, according to Duchenne, with inaction of electricity. Paralysis does not arise directly from the rich man's blood-disease, whose represen-

tative is gout, nor from the poor man's with its prototype scrofula, unless we suppose many unnamed disorganizations to arise therefrom. I have seen a tedious and fatal *tabes dorsalis*, in a man of a particularly scrofulous family, set in, after the disappearance at a mineral bathing-place, of an extensive eczema; if we are to assume a peculiar psoric dysemia, the disease might also be ascribed to it. One of the forms of *spedalskhed* receives, as you know, the name of paralysis, *lepra anæsthetica*. Dysemia *cancrosa* produces paralysis, probably only by its localizations of pressure or destruction; how far violent pains in the paralyzed parts are, as I have on some occasions observed, results thereof, I cannot say. Many and many instances prove the origin of paralysis, as of other nervous disorders, from the syphilitic dysemia; Dr. Steenberg, in his thesis, has recently established this. The latter produces both hemiplegia and paraplegia, and probably many a disorganization of the muscles; the paralysis itself presents nothing peculiar; if there be no other trace of the disease, we can depend only on the most accurate investigation of the cause. The rheumatic dysemia can scarcely be denied to be a cause of paralysis, the latter will, for example, occur after a prolonged stay in the damp air; or, perhaps, from sleeping on damp ground. A very recently detected dysemia, referrible to an epidemic contagious poison, and recognizable by diphtheritic localizations, I shall hereafter more particularly describe.

Sympathetic paralysis is difficult to recognize. We must especially attend to certain co-existent diseases in the abdominal organs, with which it is occasionally connected: colic, dysentery, affections of the uterus, kidneys and bladder—paralysis *urinaria*, Leroy d'Etiolles. It has also been considered to be connected with dentition.

The *prognosis* in paralysis is generally bad; worse when it is double than single; when it occurs slowly and progressively than when it is sudden and stationary; worst when it depends on incurable disorganizations in the nervous or muscular system; less unfavourable when it is due to a blood disease, and least so when it is idiopathic. It is most frequently chronic, and may last for many years, longest when it is stationary; it may also be short, as in the hysterical variety, or even without belonging to the latter, it may, in a few weeks, terminate in death or in restoration to health—*P. acuta*, Landry. Cases are on record of paralysis increasing gradually throughout the whole body, and subsequently steadily and spontaneously decreasing in a few weeks. More frequently, we find the cause of its spontaneous disappearance to be the occurrence of some other disease: fever, diarrhea, furuncles, or a very violent psychical impression—joy, laughter, and especially fright. The symptomatic affection is not always removed when the primary disease is cured: hemiplegia, which continues after the cerebral exudations producing it have been absorbed, affords an example of this.

Before passing to the subject of treatment, I would glance at the various forms of paralysis, which have latterly been described as peculiar kinds, and shall begin with :

The *Diphtheritic*.—It is little more than thirty years since we became acquainted with the epidemic contagious disease, known by the name *diphtheria*, and scarcely ten years have elapsed since the paralysis itself was first described. Maingault has collected, and last year published, upwards of 40 cases; and the celebrated Trousseau has, during the present year, from his own experience, given the best description of the latter in his *Clinique médicale*. The paralysis, which is often double, resembles every other; it supervenes, in general a few days after the diphtheritic localization has been removed, wherever it has been, on the skin or mucous membranes, most frequently in the latter, and principally in the mouth and nose. It is observed first in the palate, and next in all the muscles of the cavity of the mouth—the voice becomes nasal, deglutition is difficult. The soft palate hangs down immovably, and can be brought into a state of contraction only by electricity. The paralysis now extends to different parts with the usual premonitory symptoms; it may cease in one place, and manifest itself in another; it is most frequently observed in the extremities and in the eye. Sometimes it is amenable to electricity, sometimes it is not; albuminuria does not exist. A few weeks after the occurrence of the paralysis of the palate, the second supervenes; amaurosis begins earliest and intermits earliest. On the whole, the duration of the disease is from two to eight months; most cases recover. Nevertheless, the mortality would appear, from the latest reports, to amount to from 12 to 15 per cent.

Among idiopathic paralyses, we must reckon two, to which attention has latterly been directed, and both of which stand in connexion with individuality.

One is peculiar to childhood, and was first described during the last two or three decennial periods by West, Kennedy, Rilliet and Barthez, &c. Either with premonitory phenomena, cerebral symptoms, particularly convulsions; or suddenly without these, frequently during sleep, acnesis occurs in a limb, the child cannot lift the arm or support itself upon its leg. This may disappear after hours, days, a few weeks, especially when it takes place suddenly without premonitory indications; but it may also continue, arrest the growth of the extremity, occasion obliquities and other deformities. If the child has been lifted up by an arm, or if it has fallen, this may easily be supposed to be the cause, and more readily if it is impatient and cries when examined. The diagnosis is, therefore, not always very easy.

The second paralysis of this class, whether affecting the organs of sensation or of motion, manifests itself in pregnant and parturient

women, and might, perhaps, also be referred to the sympathetic variety. It occurs most frequently in the first months of pregnancy, or some days, and occasionally even not until an entire month after delivery. Churchill, of Dublin, in 1854, collected and published many cases. It may be more or less extensive; usually it is hemiplegia. In one of the cases which came under my own observation, blindness and loss of speech, lasting forty-eight hours, occurred first three days after delivery, followed by complete paraplegia, without anesthesia, and with incapability of expressing exactly what the patient wished, as well as of remembering what she had learned as a child; she could not even recognize the letters of the alphabet. The disease diminished gradually, but a whole year elapsed before the patient was perfectly well. The paralyzes which occur during pregnancy, usually disappear before parturition. Those which follow the latter, may last for many months, but are almost always curable.

There are still three kinds of paralysis, which have, of late years, received one and the same agnomen, viz., "progressive."

One of these is usually connected with insanity—*progressive paralysis of the insane*. It was first more accurately diagnosed by Bayle and Calmeil, in 1837. Numerous observations, especially in the two great asylums for the insane in Paris, have established its peculiar nature, and the eminent psychologist, Falret, has endeavoured to give the distinctive character between it and the other species of the same name. The difference lies, in the first place, in the meaning of the word "progressive;" this variety is progressive, not in extent, but in intensity. Very often—another experienced physician, Baillarger, says always—hypochondriacal monomania precedes the attack. Under all circumstances, the mind undergoes a change; usually it is depressed, and either immediately, or, at a later period, complete insanity supervenes, the absence of this is exceptional. The paralysis always manifests itself, and often most distinctly from the commencement, in the organs of speech—the words are with difficulty sent forth from the floundering lips, there is a simultaneous and slowly progressive paralysis of all the limbs, which, however, at certain intervals, appears to be stationary and even to get better, but, on the whole, steadily advances to its highest degree. Falret says that it is rather an irregularity in the contraction of the muscles, which gives the movements an uncertain and tottering character. It may be a long time before the patient is compelled to keep his bed, and he can there still move his limbs; the muscles are not more wasted than the other parts. It is, therefore, an incomplete acinesis, increasing in degree, and so far more generally diffused than many others, as it is also found in the inner senses, or, in connexion with weakness of the latter, proceeds from their very domicile. It is almost always, according to Parchappe's observations, made five or six years

ago, connected with softening of the grey substance of the brain; or, as Joire has lately stated, with granulations in the walls of the fourth ventricle. Yet, I must repeat what I have often before remarked, that we cannot assume a disorganization to be the sole cause of a given disease, which is not found in all who suffer from it. Electricity acts equally to the last. The disease is not curable.

Another paralysis, also called "progressive," is that which Duchenne, last year, described more accurately under the name of *ataxie locomotrice progressive*. It is distinguished by some symptoms from the *tabes dorsalis*, already described, which it, in many respects, resembles. The phenomena of the paralysis are about the same, but it is not always in the lower extremities that it first begins. On the contrary, what is first observed in it is a preceding, and usually persistent, paralysis in the muscles of the eye and in the eye itself. Next we find violent, sometimes fugitive, pains in particular parts. I have seen them followed by paralysis increasing for some hours or days, and disappearing in an equally long or short time. There is more frequently analgesia than anesthesia; the muscles are not in a condition to perform their functions, notwithstanding that they possess their ordinary power, as is proved either by the dynamometer, or by endeavouring, for example, forcibly to bend the leg which the patient keeps extended, and on which he cannot support himself. To explain this, Duchenne supposes that the disease consists in a loss of the power of co-ordination, since all the muscles, participating in a certain movement, have lost this power, and must act without it as well as they can. According to this view, we should transfer chorea from the class of spasms to that of paralysis, for in it this quality is not less deficient. In a practical point, the distinction which Duchenne draws between muscular feeling and muscular consciousness, is not of importance; by the former we are said to recognize weight and resistance; the latter enables us to initiate and leave off movement without the aid of sight, which, where it is wanting, must direct movement, or the latter becomes impossible. Involuntary contractions in the muscles frequently occur, sometimes when the patient places his foot firmly against anything; electricity always acts. The causes, observes Duchenne, are unknown; but Trousseau, in his clinical lectures delivered this year, in which he communicates his experience, mentions spermatorrhea as existing in more than half the patients, which is still further corroboration of the affinity of the affection with *tabes dorsalis*. It may also, certainly, be the result of a dysemia. *Post mortem* examinations are as yet too few to enable us to judge of the difference. It may last for many years; there is scarcely any hope of recovery, especially when, as sometimes happens, the affection is complicated with the atrophic paralysis.

The latter is also a form to which Duchenne, about 20 years ago,

called the attention of the profession, under the name of *Paralysis Muscularis Progressiva Atrophica*. It was more accurately described by two distinguished Frenchmen, Cruveilhier, and Aran lately lost to science. The former believed that he had found its cause in a wasting of the anterior roots of the spinal nerves, which has, however, not been confirmed by subsequent investigations. The disease begins with pains, more or less violent, which may even last for many months, and are considered to be rheumatic, until the paralysis gradually shows itself, increasing in a single muscle or set of muscles, which, by dwindling away, contributes to produce a change of form in the limb; it is chiefly the muscles of the arm, and particularly of the hand, which are first attacked, but those of the lower extremities and body also suffer in the same manner. So long as a fibre still remains, and the entire muscle has not wasted away, or been changed into a fatty mass, it presents tremors, involuntary contractions, obedience to the will and to electricity, diminishing with the progress of the disorganization. The paralysis may last for many years, either extending more and more, or remaining stationary in particular muscles. Dr. Roberts of Manchester, and Dr. Sandahl of Sweden, have recently collected upwards of 100 cases, and the etiological result is, that over exertion of particular muscular parts, for example, in mechanics, or exposure to cold, is the most frequent cause, but many others are also observed; thus Dr. Banks of Dublin, relates a case, where, after a blow on the head, followed by a brief period of unconsciousness, slowly progressive paralysis was observed in the thumbs and in the muscles of one leg, which became four inches less in circumference than the other. After the lapse of a year the progress ceased, and the man, who was 64 years of age, and was otherwise in good health, had since, during the space of 24 years, not observed any increase, but dragged the affected leg after him. An arrest may therefore be hoped for; indeed, perhaps before the fatty change sets in, nutrition may again take place and return with contractility; but in more than one-half the number of instances the paralysis continues general.

I have thus given a short description of the species of paralysis recently described; we thence find that our diagnostic resources have been largely increased, but not our therapeutic means; a wide field is open for fresh investigations and repeated experiments, especially with electricity, whose value, as a test and as a remedy, is undoubted.

The *treatment* in this disease is as manifold as its causes; there is consequently no one method which can be considered as indispensable.

In *symptomatic paralysis* that mode must be chosen which is suitable to the proximate cause of the disease; what that may be, depends on the often difficult diagnosis, and cannot at present be more accurately specified, without entering into the whole subject of therapeutics. I

shall mention only a few examples. Thus venesection may be necessary where the central organs suffer from inflammation, or are oppressed with hyperemia within or externally to the veins, but the use of this remedy has of late years been properly restricted, especially in hemorrhages, where it might even prove injurious. The strengthening plan is advantageous where the disease is the result of anemia or scrofula; perhaps, also, if there be reason to suspect softening. Often we must endeavour to promote absorption where either a fluid extravasation compresses the nervous mass or a more solid one makes it abnormal. This may be done partly by determining the morbid matter, or power to the skin by means which produce irritation and secretion, partly by the exhibition of internal excitants, either general or specific; as, for example, mercury and iodine; but it is uncertain whether, when these have had a beneficial effect, they do not owe the latter to their anti-syphilitic properties. If syphilis is suspected to be the cause, both may successively be tried, and if they prove of no avail, the natural sulphur baths are well worth a trial. In paralysis proceeding from other poisons, the suitable antidotes are given either before or simultaneously with the direct treatment. If the paralysis be the effect of wasting of the muscles, long-continued Faradization will sometimes restore nutrition and arouse the dormant powers of the system.

In *symptomatic paralyses* it is necessary to ascertain their starting point, and to direct the treatment accordingly.

When the paralysis is *idiopathic*, when the diseases of which it is a symptom are removed without restoration of power, or when these are not of such a nature as to render the special anti-paralytic means injurious, the latter must, at the earliest possible moment, be employed, either alone or in connexion with others simultaneously indicated.

The most rational division of these means would be into those which restore the power of the nerves, or re-establish their interrupted conduction, and those which re-invest the muscles with their normal force and mass; but we are not yet in a condition accurately to classify the effects of remedies in this respect, and we shall therefore adopt a simpler division, namely, into external and internal means.

Of external means some, which I shall only name in passing, are particularly useful in local paralyses, namely, the simple or compound mechanical apparatus or bandages employed by surgeons in deformities in which this disease plays a part; while in general paralysis it is also necessary to support the affected parts so as to prevent the implicated muscles from becoming still more relaxed.

Warm clothing is not to be neglected; woollens, deer skin, &c., should be worn. If a rheumatic origin be suspected, thin flannel, covered with oil cloth, should be employed. *Friction*, with woollens, or with flesh brushes alone, rubbing in ointments or spirit, with camphor, ammonia,

turpentine, cajeput oil, cantharides, phosphorus (10 grains to the ounce); whipping with rods or nettles; *baths*: either local or general, of sand, vapour, cold or warm water, plain or mixed with soap, brandy, sulphur, malt, caustic potash, soda, carbonate of potash, aqua regia, cold washing or douches along the spine. *Derivatives*—but not issues or setons, producing much suppuration, which, in idiopathic paralysis, might make the patient's state worse, are often advantageously employed, especially along the spine; repeated small moxas, inunction of irritating ointments, particularly of tartar emetic. (I saw a paraplegia of long standing disappear in 14 days after an eruption so produced along the whole spine, which was certainly very painful; the patient was pregnant and would, perhaps, have been more gently cured by nature, though not so quickly.) The irritation produced by mustard poultices is less painful and perhaps as efficacious. Lastly, I may mention the two most important means, namely, strychnia and electricity. The latter is applied by means of a rotatory or induction machine, as Faradization being made stronger or weaker in proportion to the muscular sensibility for 10 or 15 minutes at a time, every day—more or less frequently, according to circumstances; often it is necessary to combine acupuncture with platina needles inserted in the muscles. Gavaret, in 1843, and Duchenne, in 1855, have accurately described and collected a number of cases exhibiting the great utility of electricity. A still larger number have been published by Remak. The second principal remedy, formerly more extensively employed, is strychnia, the internal use of which I shall just now allude to. It is employed in the form of ointment, in the proportion of a scruple to the ounce, rubbed in both on the part affected and along the spine, or it is sprinkled, to the amount of half a grain, on the skin, deprived of its cuticle by blistering or other means. Both remedies are equally applicable in paralysis of sensation and of motion, and act particularly in diseases of the organs of sense, and where muscular contractility is deficient. The fact that the spasms produced by them are often stronger in the paralyzed than in the healthy muscles probably depends on the contractility accumulated during a lengthened period of inactivity. Among external means must also be enumerated passive, and as far as possible, active motion; the former by the aid of others, the latter by a powerful exertion of the will, uninterruptedly sending its orders to the paralyzed part. The so-called Swedish gymnastic method is also an excellent agent in such cases.

Many different internal medicines are recommended in idiopathic paralysis, particularly stimulants and anti-spasmodics: ether, ammonia, camphor, phosphorus, oil of cajeput, musk, valerian, arnica, &c. Many cases of paralysis are relieved by their use; it is possible, however, that they may be directly advantageous only in hysterical cases; perhaps they arouse the vital powers in the vegetative sphere, promote the metamor-

phosis of tissue and absorption; in the latter case their effect is mediate, and they may be classed among the means beneficial in symptomatic, exudative paralysis, just as emetics and drastics, which act violently on the intestinal canal, where they have been of use, have probably attacked the disease from the sympathetic side. Iron and bark are, of course, also efficacious in the paralyzes dependent on weakness, either alone or in combination with the principal remedy, *nux vomica* or *strychnia*; the extract of the former is given in ascending doses from a quarter of a grain to two grains, or more, three times a day. The first dose of *strychnia* should be one-twelfth of a grain, thrice daily. Usually after the use of three-quarters of a grain in the day, spasms set in in the paralyzed muscles, but cease so soon as the medicine is discontinued. It is only a peculiar individuality or idiosyncrasy which may give rise to more prolonged intoxication. When the spasms cease the medicine is to be resumed, but in the smaller dose. The remedy is best given in pills or drops, which admit of being gradually increased. Many other specifics are recommended, but we have not sufficient experience of their utility; such are *rhus toxicodendron* and *rhus radicans*; *tinctura colocynthis* and *tinctura nicotianæ*; *tinctura cantharidum*, which acts specially in anaphrodisia; *secale cornutum*, which has been found useful in paralysis of the bladder and uterus, and is therefore employed in the universal form of the disease.

The diet should be strengthening and exhilarating, both for the body and for the mind; violent psychological impressions, which have occasionally caused the paralyzed to walk—for example, fear of being destroyed in a burning house, we can certainly not employ—but such as are of a milder nature may be used. Boerhaave speaks of a favourite sultana who was cured by a violent effort to oppose her physician's attempt to touch her feet, which no modest Turkish woman will permit; leave had, of course, been obtained from the sultan to attempt the cure in this mode.

There is, properly speaking, no special treatment for the several varieties of idiopathic paralysis. For paralysis agitans, which is most frequently met with in drinkers and old people, usually in the extremities, and which makes regular motion impossible, there is scarcely any remedy. As the paralysis of children and of pregnant or puerperal women may pass away of itself, we ought, at least, not to employ the stronger and more powerful remedies against it. Cure of the paralysis of the insane is not attainable; attempts to effect it are thrown away. In ataxia the general means should be employed; in the atrophic form Faradization should be continued for a long time; it may, perhaps, be cured, where disorganization has not commenced; but, under all circumstances, we may hope to be able to arrest its progress when the cause is only local exertion or exposure to cold. Gastein is said even to have cured a case of the universal form of the affection. In the diphtheritic variety

strengthening means and sulphur baths are regarded as the best remedies; at least, they are what should first be tried; besides, the others may also be tried if these fail.

If it be asked what mineral baths are most serviceable in this disease? it may be answered, none, or all; none, where the paralysis depends upon disorganization; that the disease is made worse by them, or, at least, is not improved, while the patient's sufferings are rather increased by the journey is certain. If we bear in mind all the causes of paralysis we may also see that the answer "all" is well-founded, and particularly all where there are good apparatus for douche, vapour, mud, and carbonated baths. The choice depends upon the main disease, of which the paralysis is a symptom, or by which it is sympathetically produced, sometimes on other incidental circumstances—the difficulty or expense of the journey, family matters, &c. It is, therefore, well that there are many to choose from.

The most efficacious are the acratie—Gastein, Wildbad, Pfeffers, Plombières, Bourbonne les Bains, Balaruc, Aix-en-Savoie, Leuken; but they can be recommended only where the paralysis is idiopathic; if there be the least suspicion of a material cause; for example—of an unabsorbed extravasation after apoplexy, we must first wait for a few months, and recommend such baths as the Soolensprudel, which, at the same time, promote absorption, or act as derivatives on the intestinal canal—Oïounhausen, Nauheim, and the sparkling Kissingen. These are also serviceable where the glandular system has had an influence in producing the disease. In such cases, and in paralysis caused by anemia or weakness, chalybeate baths are also useful, the more freely impregnated with carbonic acid gas the better. To the rheumatic variety Wiesbaden and Töplitz are the most suitable; and these are also said to be most efficacious in paralysis after parturition; or the sulphur baths at Aix, Baden in Switzerland, or Baden near Vienna, and Sandefjord. Sulphur baths are, moreover, serviceable in all cases due to the presence of metallic poisons, lead, mercury, arsenic, &c. They are also indirectly useful in those of syphilitic complication. Partly owing to their carbonated and mud baths, partly as acting on the abdominal organs, if the paralysis be of a reflex nature depending thereon, or in consequence of their chalybeate quality, the waters of Franzensbad and Marienbad have often been successful. While hemiplegic patients are sent first to the less heating saline baths, those who are paraplegic may unhesitatingly commence treatment at the acratie baths above-mentioned. If a sojourn in Italy be preferred, Lucca and Ischia, with their excellent sand baths, may be recommended. How far atrophic paralysis ought to be submitted to treatment at the acratie baths must be decided by future experience.

Two Cases of Eye Disease. By PROFESSOR ARLT. (Sitzungs Berichte. 17th May, 1861.) Wochenblatt, p. 202.

PROFESSOR ARLT presented two interesting cases of eye disease. The first was affected with blepharospasmus idiopathicus. Arlt had only observed six such cases before. The present instance, the youngest of all, is 36 years of age; without having ever had any important disease; the eyes also present no abnormality whatever; but, for about a year, she has been unable to keep her eye-lids open; they are spasmodically drawn together, and then they open of their own accord, but always only for a few minutes. The spasm presents itself only in the region of the mus. orbicularis palpebrarum, and the mus. corrugator superciliorum. The other muscles of the face are not in the slightest degree affected. The spasmodic contractions and jerkings come on without any cause, and cannot be overcome, not even by the endeavours to open the lids with the fingers. Only when, at the clinic, the lids are forcibly opened do they remain from half to a whole hour open; it was afterwards discovered that a heavy, somewhat painful, pressure on the supra-orbital nerve had the same effect. No disturbance in the sensibility of the branches of the trigeminus can be discovered, neither in the skin of the face, nor in the conjunctiva or cornea. The vision is perfect. Arlt intends to observe the case, and eventually to divide the supraorbital nerve. Arlt alludes to four cases in his treatise, on one of whom the operation was performed in Vienna without the desired result, and one under Graefe's observation, in which the operation effected a cure.

The second patient is a gardener, 30 years of age, pale but healthy. He always had good sight, and never had any injury or inflammation of his eyes, and was only slightly short sighted. On the 1st of March, 1860, as he was bending at his work, he was unable to proceed from cloudiness and double vision. When he presented himself at the clinic, nothing abnormal existed, with the exception that the lens of the left eye had fallen into the anterior chamber, and its inner edge pressed against the cornea; the lens of the right eye was simply dislocated, and pushed inwards. Professor Arlt kept the patient a long time on his back, cold applications and atropine in solution applied externally. As the retraction of the iris behind the lens did not take place, and as opacity and cloudiness of the cornea was to be feared by the lens remaining in the anterior chamber, Arlt removed the lens by a flap incision. Immediately after this was finished the lens came forth from the eye, light-yellow, perfectly transparent, almost spherical, and enclosed in its uninjured capsule, without a trace of vitreous humour; and the object of the operation was obtained in the most simple and fortunate manner. The wound healed without accident, and the man was dismissed without danger three weeks after the operation. The inspection with convex glasses showed that the retina was uninjured, and that the vitreous humour was free from opacities.

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